

Short-Term

ENERGY OUTLOOK



QUARTERLY PROJECTIONS

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Short-Term Energy Outlook

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The Energy Information Administration (EIA) prepares quarterly, short-term energy supply, demand, and price projections for publication in January, April, July, and October in the *Outlook*.

The forecast period for this issue of the *Outlook* extends from the second quarter of 1996 through the fourth quarter of 1997. Values for the first quarter of 1996, however, are preliminary EIA estimates (for example, some monthly values for petroleum supply and disposition are derived in part from weekly data reported in the *Weekly Petroleum Status Report*) or are calculated from model simulations using the latest exogenous information available (for example, electricity sales and generation are simulated using actual weather data). The historical energy data, compiled into the second quarter 1996 version of the Short-Term Integrated Forecasting System (STIFS) database, are mostly EIA data regularly published in the *Monthly Energy Review*, *Petroleum Supply Monthly*, and other EIA publications. Minor discrepancies between the data in these publications and the historical data in this *Outlook* are due to independent rounding. The STIFS database is archived quarterly and is available from the National Technical Information Service.

The STIFS model is driven principally by three sets of assumptions or inputs: estimates of key macroeconomic variables, world oil price assumptions, and assumptions about the severity of weather. Macroeconomic estimates are produced by DRI/McGraw-Hill but are adjusted by EIA to reflect EIA assumptions about the world price of crude oil, energy product prices, and other assumptions which may affect the macroeconomic outlook. By varying the assumptions, alternative cases are produced using the Short-Term Integrated Forecasting System (STIFS).

Changes to Macroeconomic Measures

In mid-January 1996, the Bureau of Economic Analysis released its comprehensive revision of the National Income and Product Accounts, which was incorporated into the STIFS model as well as the DRI/McGraw Hill U.S. economic model and forecast. The most important changes are:

- 1) a shift in emphasis from fixed-weighted to chain-weighted measures of output and prices, the difference being that in chain-weighted GDP, changes in the components of real GDP are valued according to how they compare with other prices today, while in fixed-weighted GDP, changes in the components of real GDP today are valued at the base year's prices;
- 2) a change in the base year from 1987 to 1992;
- 3) a new treatment for government expenditures consisting of breaking down the government components of GDP into government consumption and government investment, and adding the services provided by general government fixed assets, such as roads and schools, to government consumption;
- 4) a change in the way depreciation on physical capital is estimated, from straight-line depreciation to estimates based on used equipment and structure prices.

In re-estimating GDP growth for 1995 based on these new methods, growth was substantially lower than estimated in the last forecast. This is due to reductions in estimated spending growth relating to investment of all types, and increased estimates of inflation, as well as to the application of the chain-weighted approach to price and real spending aggregation.

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World Oil Prices Pegged at \$16.00 Per Barrel In The Forecast Period

After averaging over \$18.00 per barrel due to the cold weather in the first quarter of this year, world oil prices are expected to decline in the summer to \$16.00 per barrel through the end of 1997. This projected price is based on the assumption that production increases from non-OPEC producers will keep a ceiling on prices. The humanitarian sale of Iraqi oil could lower oil prices by \$3 per barrel.

Record Year For Oil Imports Likely This Year

In 1996 and 1997, total petroleum net imports are projected to reach levels exceeding 1977's record high. Total net imports should equal 50 percent of total petroleum demand in 1997 in the base case. The net import share of demand could range between 51 and 48 percent in the low-to-high price ranges.

Gas Price Spike Recedes, But Higher Wellhead Prices Seen for 1996

After hovering between \$2.00 and \$3.50 per million Btu, from early November 1995 through the end of January 1996, spot prices at the Henry Hub (in Erath, Louisiana) rocketed to between \$12.50 and \$15.50 per million Btu on February 2nd as extremely cold weather in the East and Gulf regions heightened demand and, briefly, even restricted a small portion of natural gas production. The prospect of warmer weather settled prices by the end of February, but levels of gas storage and the need for high injections this spring and summer will keep 1996 prices at higher levels than seen in 1995.

In 1996 And 1997, U.S. Natural Gas Demand Is Expected To Reach Its Highest Levels Since 1973.

Assumptions of normal temperatures, together with continued economic growth, are expected to help raise total annual gas demand in 1996 to a high of 21.9 trillion cubic feet, as demand grows by 1.7 percent. In 1997, natural gas demand is expected to rise by a further 2.7 percent, to 22.5 trillion cubic feet, as economic growth recovers from slower 1996 levels.

Gasoline Demand Growth Expected To Set Another Summer Record

This summer, gasoline demand is expected to average over 8 million barrels per day, or 2.1 percent above last year's level. This is the highest summer demand level ever and is another step in the ongoing trend toward higher domestic gasoline use. Meanwhile, average retail pump prices are expected to be around \$1.23-\$1.24 per gallon. Tight market conditions and continued high crude oil prices could push the average summer price to about \$1.31.

Slower Economic Growth Means Slower Growth In Total Electricity Demand In 1996 And 1997

During the forecast period, electricity demand is expected to continue to grow but at considerably slower rates than the 3 percent seen in 1995. This is due mainly to lower economic growth, but also the assumption of normal weather means this summer is expected to be almost 9 percent cooler than in 1995.

Table HL1. U.S. Energy Supply and Demand Summary

	Price Case ^a	Year				Annual Percentage Change		
		1994	1995	1996	1997	1994-1995	1995-1996	1996-1997
Real Gross Domestic Product (GDP)								
(billion 1992 dollars) ^b	Mid	6604	6740	<i>6851</i>	<i>7001</i>	2.1	<i>1.6</i>	<i>2.2</i>
Imported Crude Oil Price	Low			<i>14.49</i>	<i>13.00</i>		<i>-15.5</i>	<i>-10.3</i>
(nominal dollars per barrel)	Mid	15.52	17.14	<i>16.82</i>	<i>16.00</i>	10.4	<i>-1.9</i>	<i>-4.9</i>
	High			<i>18.19</i>	<i>18.00</i>		<i>6.1</i>	<i>-1.0</i>
Petroleum Supply								
Crude Oil Production ^c	Low			<i>6.21</i>	<i>5.89</i>		<i>-4.9</i>	<i>-5.2</i>
(million barrels per day)	Mid	6.66	6.53	<i>6.30</i>	<i>6.10</i>	-2.0	<i>-3.5</i>	<i>-3.2</i>
	High			<i>6.36</i>	<i>6.26</i>		<i>-2.6</i>	<i>-1.6</i>
Total Petroleum Net Imports (including SPR)	Low			<i>8.87</i>	<i>9.63</i>		<i>12.6</i>	<i>11.1</i>
(million barrels per day)	Mid	8.05	7.88	<i>8.70</i>	<i>9.24</i>	-2.1	<i>10.4</i>	<i>6.2</i>
	High			<i>8.59</i>	<i>8.98</i>		<i>9.0</i>	<i>4.5</i>
Energy Demand								
World Petroleum	Mid	68.6	69.7	<i>71.4</i>	<i>73.2</i>	1.6	<i>2.4</i>	<i>2.5</i>
Petroleum	Low			<i>18.18</i>	<i>18.62</i>		<i>2.7</i>	<i>2.4</i>
(million barrels per day)	Mid	17.72	17.70	<i>18.10</i>	<i>18.45</i>	-0.1	<i>2.3</i>	<i>1.9</i>
	High			<i>18.04</i>	<i>18.33</i>		<i>1.9</i>	<i>1.6</i>
Natural Gas	Low			<i>21.90</i>	<i>22.46</i>		<i>1.5</i>	<i>2.6</i>
(trillion cubic feet)	Mid	20.75	21.58	<i>21.94</i>	<i>22.53</i>	4.0	<i>1.7</i>	<i>2.7</i>
	High			<i>21.95</i>	<i>22.54</i>		<i>1.7</i>	<i>2.7</i>
Coal								
(million short tons)	Mid	940	<i>953</i>	<i>961</i>	<i>978</i>	1.4	<i>0.8</i>	<i>1.8</i>
Electricity (billion kilowatthours)								
Utility Sales ^d	Mid	2921	3008	<i>3051</i>	<i>3104</i>	3.0	<i>1.4</i>	<i>1.7</i>
Nonutility Own Use ^e	Mid	150	156	<i>160</i>	<i>163</i>	4.0	<i>2.6</i>	<i>1.9</i>
Total	Mid	3071	3164	<i>3211</i>	<i>3266</i>	3.0	<i>1.5</i>	<i>1.7</i>
Adjusted Total Energy Demand ^f								
(quadrillion Btu)	Mid	88.5	90.4	<i>92.0</i>	<i>93.6</i>	2.2	<i>1.7</i>	<i>1.8</i>
Adjusted Total Energy Demand per Dollar of GDP								
(thousand Btu per 1987 Dollar)	Mid	13.40	13.41	<i>13.42</i>	<i>13.37</i>	0.1	<i>0.1</i>	<i>-0.4</i>
Renewable Energy as Percent of Total	Mid	7.3	7.5	<i>7.4</i>	<i>7.3</i>			

^aRefers to the imported cost of crude oil to U.S. refiners assumed for the scenario depicted. In all cases on this table, the mid macroeconomic case and normal weather are used.

^bIncludes lease condensate.

^cTotal annual electric utility sales for historical periods are derived from the sum of monthly sales figures based on submissions by electric utilities of Form EIA-826, "Monthly Electric Utility Sales and Revenue Report with State Distributions." These historical values differ from annual sales totals based on Form EIA-861, reported in several EIA publications, but match alternate annual totals reported in EIA's *Electric Power Monthly*, DOE/EIA-0226.

^dDefined as the difference between total nonutility electricity generation and sales to electric utilities by nonutility generators, reported on Form EIA-867, "Annual Nonutility Power Producer Report." Data for 1995 are estimates.

^eThe total energy demand concept shown here is that presented as total consumption in Energy Information Administration, *Annual Energy Review 1994 (AER)*, DOE/EIA-0384(94), Table 1.1. The conversion from physical units to Btu is calculated using a subset of conversion factors used in the calculations performed for gross energy consumption in Energy Information Administration, *Monthly Energy Review (MER)*. Consequently, the historical data may not precisely match those published in the *MER* or the *AER*.

SPR: Strategic Petroleum Reserve.

Notes: Minor discrepancies with other published EIA historical data are due to independent rounding. Historical data are printed in bold, forecasts are in italic. The forecasts were generated by simulation of the Short-Term Integrated Forecasting System.

Sources: Historical data: Energy Information Administration, *Monthly Energy Review*, DOE/EIA-0035(96/02); *Petroleum Supply Monthly*, DOE/EIA-0109(96/02); *Petroleum Supply Annual 1994*, DOE/EIA-0340(94)/2; *Natural Gas Monthly*, DOE/EIA-0130(96/02); *Electric Power Monthly*, DOE/EIA-0226(96/01); and *Quarterly Coal Report*, DOE/EIA-0121(95/2Q). Macroeconomic projections are based on DRI/McGraw-Hill Forecast CONTROL0296.

Summer Outlook for Motor Gasoline



Despite indications of a slowing economy this year, one market that is almost certain to continue to grow steadily is motor fuel, which means solid growth in motor gasoline for the 1996 driving season. (For simplicity, we have defined the summer driving season to encompass the second and third calendar quarters of the year, although

the peak demand months generally fall in the June-to-August period). The kicker for fuel-hungry motorists is that, by almost any measure, gasoline is expected to be available at a bargain. This summer, gasoline demand is expected to average over 8 million barrels per day, or 2.1 percent above last year's level. This is the highest summer demand level ever and is just another step in the ongoing trend toward steadily higher domestic gasoline use that is expected to continue for years to come. Meanwhile, average retail pump prices are expected to be around \$1.23-\$1.24 per gallon,

U.S. Motor Gasoline Summer Outlook: Mid World Oil Price Case

	1995			1996			Percent Change		
	Q2	Q3	Summer	Q2	Q3	Summer	Q2	Q3	Summer
Demand/Supply (million barrels per day)									
Total Demand	7.937	7.933	7.935	8.067	8.126	8.096	1.6%	2.4%	2.0%
Refinery Output	7.487	7.591	7.539	7.468	7.641	7.555	-0.3%	0.7%	0.2%
Net Stock Withdrawal	0.002	0.178	0.091	0.026	0.079	0.052	NM	NM	NM
Net Imports	0.191	0.168	0.179	0.398	0.292	0.345	108.7%	73.9%	92.3%
Refinery Utilization (percent)	93.3%	94.0%	93.7%	95.3%	96.5%	95.9%			
Stocks (million barrels, ending period)									
Total Gasoline Stocks	205.1	215.0	215.0	198.6	202.2	202.2	-3.1%	-6.0%	-6.0%
Finished	169.2	175.9	175.9	159.0	161.2	161.2	-6.1%	-8.3%	-8.3%
Blending Components	35.8	39.2	39.2	39.7	41.0	41.0	10.7%	4.7%	4.7%
Oxygenate Stocks	13.8	15.1	15.1	16.2	18.0	18.0	17.6%	18.8%	18.8%
Prices (cents per gallon)									
Imported Crude Oil Price ^a	43.3	39.5	41.4	41.2	38.1	39.7	-4.8%	-3.5%	-4.2%
Wholesale Gasoline Price ^b	68.9	62.4	65.6	66.0	62.5	64.2	-4.2%	0.2%	-2.1%
Retail Gasoline Price ^c	124.5	122.7	123.6	124.2	122.6	123.4	-0.2%	0.0%	-0.1%
Market Indicators									
Real GDP (billion 1992 dollars)	6709.4	6763.2	6736.3	6826.1	6866.9	6846.5	1.7%	1.5%	1.6%
Real Income (bill. 1992 dollars)	4896.1	4939.8	4918.0	5021.0	5042.5	5031.8	2.6%	2.1%	2.3%
Industrial Output (index, 1987=1.0)	1.214	1.223	1.219	1.227	1.242	1.235	1.1%	1.5%	1.3%
Driving Age Population (millions)	204.5	204.9	204.7	206.4	206.8	206.6	0.9%	0.9%	0.9%
Miles Travelled (mill. miles per day)	6793.4	6952.8	6873.5	6974.5	7157.1	7066.3	2.7%	2.9%	2.8%
Average MPG (miles per gallon)	20.38	20.87	20.63	20.59	20.97	20.78	1.0%	0.5%	0.7%

^aRefiners' acquisition cost for imported crude oil.

^bPrice of gasoline sold by refiners to resellers.

^cAverage pump price for gasoline, all grades and services.

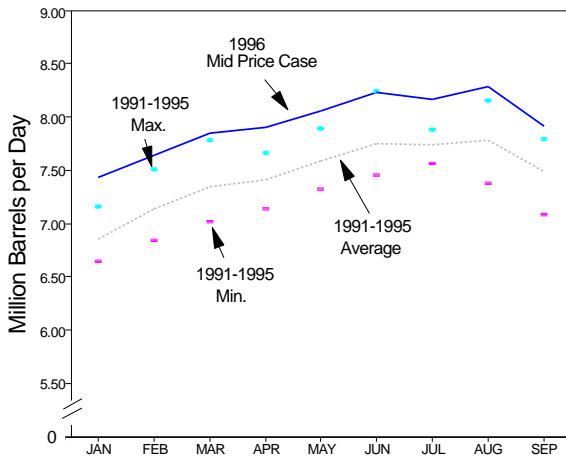
^dIn accordance with the January 1996 revisions of the National Income and Product Accounts by the Bureau of Economic Analysis, macroeconomic measures have been changed from fixed-weighted to chain-weighted, and base year has been changed from 1987 to 1992.

Notes: NM = percentage changes not particularly informative. Minor discrepancies with other EIA published historical data are due to rounding. Historical data are printed in bold, forecasts are in italic. The forecasts were generated by simulation of the Short-Term Integrated Forecasting System.

Sources: Historical data: Energy Information Administration, *Petroleum Supply Monthly*, DOE/EIA-0109(93/01-96/02); *Monthly Energy Review*, DOE/EIA-0035(96/02); U.S. Department of Commerce, Bureau of Economic Analysis, *Survey of Current Business*, November 1995; Federal Reserve System, *Statistical Release G.17(419)*, November 1995. Macroeconomic projections are based on DRI/McGraw-Hill Forecast CONTROL0296. Population projections are from the Census Bureau, U.S. Department of Commerce, as used in the *Annual Energy Outlook, 1996*, DOE/EIA-0383(96).

Summer Outlook for Motor Gasoline

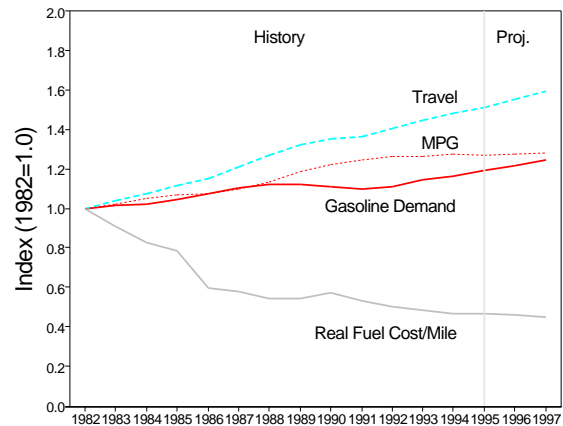
Figure 1. Gasoline Demand in 1996



Mid World Oil Price Case

Sources: Second Quarter 1996 STIFS database. Details provided in Figure References Section, p. 44.

Figure 2. Annual Gasoline Market Trends



Mid World Oil Price Case

Sources: Second Quarter 1996 STIFS database. Details provided in Figure References Section, p. 44.

the same as last summer. Gasoline prices are expected to remain low this year mainly because world crude oil prices (as represented by the U.S. refiner acquisition cost of imported oil) are expected to remain at about \$16.00 per barrel, down about 8 percent from 1995, among the 3 or 4 lowest annual average values seen since 1983. On the other hand, while U.S. gasoline suppliers are producing more gasoline than ever, meeting increased demand with leaner inventories, and holding the line on producer prices (despite having to meet stricter environmental requirements imposed by the Clean Air Act, as amended in 1990), the current gasoline market situation holds some potential to yield stronger-than-normal increases in price this summer. Nevertheless, with the preliminary 1996 data on hand at this time, the assessment of the motor gasoline supply situation at the outset of the driving season is still adequate for expected demand ranges.

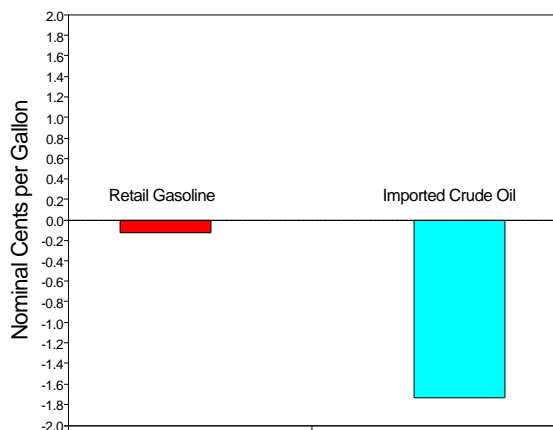
Gasoline demand has been reaching record levels lately and is poised to set new highs in the near future. Summer demand for motor gasoline this year is likely to be at least 2 percent above the level seen last summer, which would result in demand levels persistently near or above the 8-million-

barrels-per-day mark (Figure 1). U.S. gasoline demand has never averaged above 8 million barrels per day in a calendar quarter, so this summer's demand growth may be a watershed. This year's demand increase is not a transitory phenomenon but is a reflection of two long-term factors: the relentless impact on travel demand of increased population and income; and the end of the era of perennial increases in average highway fuel efficiency. Figure 2 illustrates the salient trends in the gasoline market, including the steady decline in real fuel costs enjoyed by Americans over the last 14 years.

The first factor is largely a matter of demographics: increases in the driving age population spur increased highway miles travelled, particularly as population density continues to decline and average miles driven per driver increase.¹ Demographic factors, which change only slowly over time, account for 1-2 percent of the expected travel demand growth this summer.² In addition, rising real incomes and falling per-mile fuel costs induce increases in travel demand per person, even in the short run, all else being the same. These purely economic factors account for the remainder of the expected increase in travel demand this summer.³

Summer Outlook for Motor Gasoline

Figure 3. Gasoline and Crude Oil Price Changes: Summer 1996 vs Summer 1995



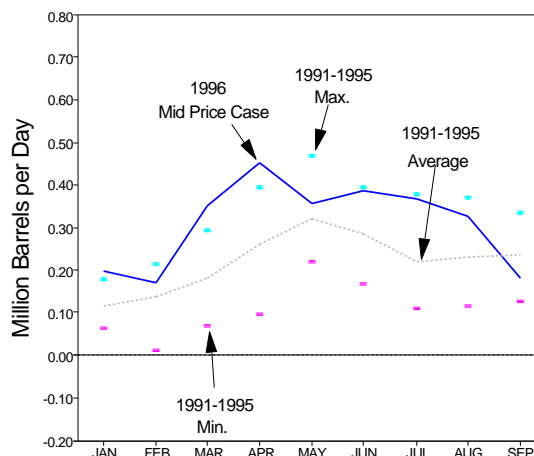
Mid World Oil Price Case

Sources: Second Quarter 1996 STIFS database. Details provided in Figure References Section, p. 44.

The second demand factor, stagnant average fuel efficiency for the entire fleet, now seems solidly entrenched in the year-to-year developments of the domestic transportation market. It seems clear (from Figure 2) that the era of rising average vehicle efficiency is over in the United States. This development has been anticipated for some time because of persistently low fuel costs and because of consumer trends leading to a rapidly increasing share of low-efficiency personal vehicles (light trucks, vans, and sport-utilities) on the highway.⁴

Regulations requiring the introduction of efficiency-reducing formulations of gasoline designed to reduce pollution (particularly reformulated gasoline (RFG)) and the repeal of the national speed limit have added to the general deterioration in fuel efficiency in the past few years.⁵ Preliminary estimates of average efficiency growth in 1995 are actually negative (approximately -0.3 percent, see Figure 15 below). Data revisions may reduce the magnitude of this development, which in any case is partly a one-time effect related to RFG implementation. However, at this point, little doubt remains that assumptions of positive efficiency growth this summer are conservative ones, so far as expected gasoline demand is concerned.

Figure 4. Gasoline Net Imports in 1996



Mid World Oil Price Case

Sources: Second Quarter 1996 STIFS database. Details provided in Figure References Section, p. 44.

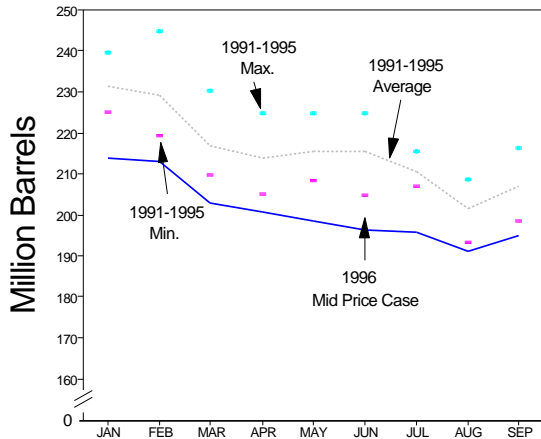
Since about 1992, growth in highway travel in the United States has not been offset by significant increases in average vehicle efficiency, and the resulting upward trend in gasoline demand has great momentum and is not easily or quickly turned around. The plateau in fuel efficiency that we are on now is in large measure the product of a declining trend in real gasoline prices (Figure 2) that has a history (with little interruption) dating back to 1982.⁶

Nominal gasoline pump prices are expected to fall marginally or remain flat this summer compared to last year, and this implies a real (inflation-adjusted) decline of about 2.6 percent, based on expected changes in the consumer price index (see Table 2 below). Figure 3, however, illustrates that retail gasoline prices are not expected to fall in line with crude oil price changes this summer because of market factors that will most likely enhance supplier margins. These factors include: relatively low end-of-winter inventories for petroleum products generally, and the likelihood of increased reliance on gasoline imports.

Since 1988, imports have declined in relative and even absolute importance (Figure 4), as large investments in domestic gasoline production

Summer Outlook for Motor Gasoline

Figure 5. Gasoline Stocks and Blending Components in 1996



Mid World Oil Price Case

Sources: Second Quarter 1996 STIFS database. Details provided in Figure References Section, p. 44.

capacity have allowed domestic suppliers to more than keep up with demand growth.⁷ In fact, much higher distillation unit utilization for U.S. refiners in the 1990's than was generally seen in the 1980's resulted in a reduction in U.S. petroleum products imports from 2.3 million barrels per day to below 1 million barrels per day in 1995.⁸

This year, some increased reliance on gasoline imports is likely (Figure 4). In contrast to 1995, product inventories at winter's end were depleted

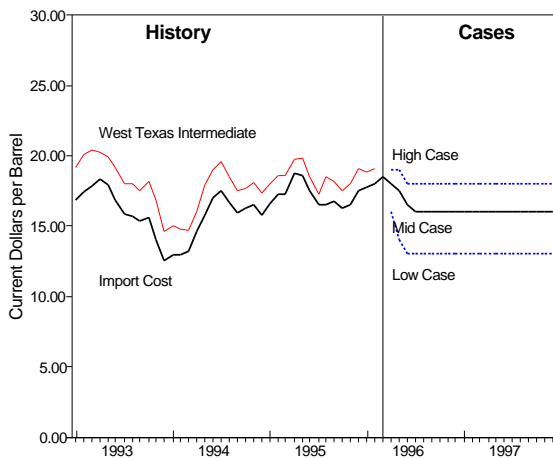
(particularly for distillate fuel) rather than in excess (Figure 5). Thus, more of the Nation's refining capacity will be needed to meet inventory demand for an array of products, inducing more product imports, including gasoline imports. Normally, these conditions would enhance pressure on domestic refiner margins and push retail prices up compared to a more abundant domestic supply situation when prices are lower. What actually emerges will depend in part upon how readily and at what cost incremental supplies from outside the United States may be brought in to meet summer demand.

While lower real (inflation-adjusted) gasoline prices are likely this year, there is some uncertainty about the short-term path that prices may take before that becomes apparent. As noted in EIA's *Summer 1996 Gasoline Assessment*,⁹ very low inventories, record high demand, high refinery utilizations, and projections for high imports increase the potential for short term volatility in gasoline prices. In addition, underlying the forecast is a high degree of uncertainty regarding how high crude oil prices will climb, and when they will weaken this year. A plausible high price scenario yields peak summer prices near \$1.35, yielding a summer average price close to \$1.31 per gallon. The more likely outlook, however, is for significant weakening in oil prices this summer, which is evidenced by suppliers' reluctance to hold more than minimal inventories at this time.

The Outlook

Outlook Assumptions

Figure 6. U.S. Monthly Crude Oil Prices



Sources: Second Quarter 1996 STIFS database and Energy Information Administration, Energy Markets and Contingency Information Division. Details provided in Figure References Section, p. 44.

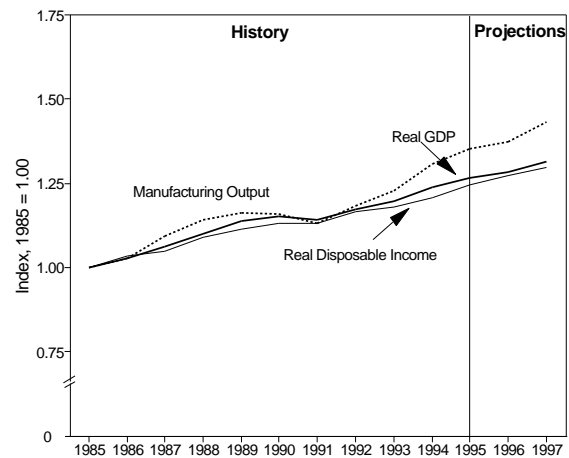
World Oil Prices

- The specter of an Iraqi oil sale could cause swings in world oil prices of \$2-3 per barrel. This price uncertainty is consistent with a 700 thousand barrels per day boost in supply. Although not needed in 1996, additional supply will be needed in 1997 to keep pace with demand growth. Prices will remain weak in 1996 even without an Iraqi sale. Only restocking after the winter and reservoir maintenance will keep prices from falling if OPEC supply continues at its current rate.
- In the mid-price case, the world oil price (the average cost of imported crude for U.S. refiners) is expected to decrease gradually throughout the spring to near \$16.00 per barrel through 1997 (Figure 6 and Table 4).
- Much price volatility is expected, given the tightness of world oil stocks, particularly in the U.S. Even in the absence of Iraqi oil (as assumed), prices could drop to \$13 per barrel for short durations, or increase to as high as \$18.00 per barrel during speculative periods or tight market situations.

Economic Outlook

- In 1995, U.S. Gross Domestic Product (GDP) grew by 2.1 percent (see Preface, p.iii). GDP is

Figure 7. U.S. Macroeconomic Indicators



Mid World Oil Price Case

Sources: Second Quarter 1996 STIFS database, U.S. Commerce Department, and Federal Reserve Board. Details provided in Figure References section, p. 44.

forecast to average 1.7 percent growth in 1996 and 2.2 percent in 1997. Growth in disposable income is expected to be 2.3 percent in 1996, 2.0 percent in 1997 (Figure 7 and Table 1).

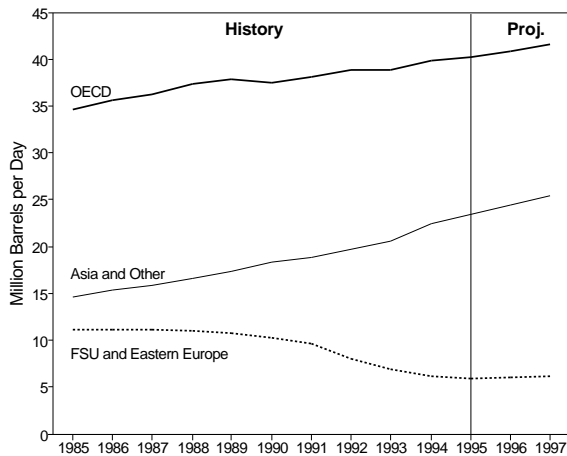
- The rise in interest rates in early 1995 has affected interest-sensitive parts of the economy--investment, housing starts, new car sales--causing a slowdown in 1996 growth. Consumer price inflation is expected to remain steady at 2.7 percent in 1996 and 1997.
- Manufacturing production growth slows in 1996 to 1.5 percent as domestic consumption and investment growth decelerate. Manufacturing production is expected to increase by 4.2 percent in 1997. Total employment will increase over the forecast but more slowly than it did in 1995.

Weather Assumptions

- Heating and cooling degree-days are assumed to follow historical norms in the forecast period. This results in this summer being almost 9 percent cooler than in 1995 (Table 1).

International Oil Demand

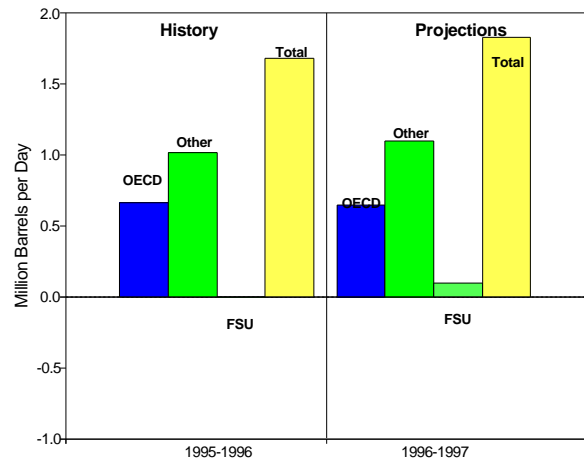
Figure 8. World Petroleum Demand



Mid World Oil Price Case

Sources: Energy Information Administration, Energy Markets and Contingency Information Division. Details provided in Figure References Section, p. 44.

Figure 9. World Oil Demand Changes by Region



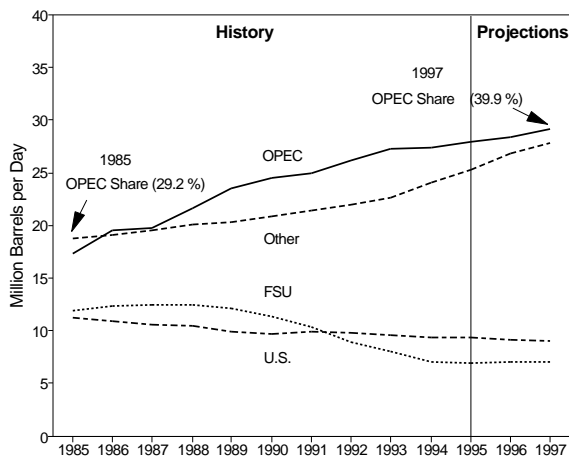
Mid World Oil Price Case

Sources: Energy Information Administration, Energy Markets and Contingency Information Division. Details provided in Figure References Section, p. 44.

- Without fanfare, world oil demand continues to increase to record levels. By 1997, total world oil demand may reach 73 million barrels per day (Table 3 and Figure 8). All indicators (price, GDP growth, weather) point toward continued annual increments of over 1.5 million barrels per day worldwide in 1996 and 1997, or an annual average growth of nearly 2.5 percent. This rate of increase is two and one-half the 1 percent average growth seen between 1991 and 1995.
- The 1991-1995 period showed low world oil demand growth because demand was declining significantly in the Former Soviet Union (FSU), offsetting the increases outside the FSU. But excluding the FSU, the growth trend is different: in 1991, world demand outside the FSU was 58.4 million barrels per day. By 1997, world oil demand outside the FSU will have grown by 10 million barrels per day to 68.5 million barrels per day, or an annual average rate of increase of 2.7 percent.
- Oil demand in the FSU is expected to remain level in 1996, and increase 100,000 barrels per day in 1997 following forecast positive economic growth in 1997 of over 6 percent.
- Oil demand in China and Other Asia is expected to increase by about 6 percent in 1996 and 1997, as the economies of many of these countries continue to grow by 6 to 10 percent or more each year. In Africa, Latin America¹⁰, and the Middle East, with economic growth between 4 and 5 percent, oil demand is expected to continue to grow by over 2.5 percent in 1996 and 1997.¹¹
- Oil demand in countries of the Organization for Economic Cooperation and Development (OECD) is expected to increase by 700,000 barrels per day in both 1996 and 1997, accounting for nearly 40 percent of world growth (Figure 9). The United States' oil demand growth represents over half of OECD growth.
- The share of non-OECD oil demand has remained about 42 percent since the early 1980's. Indeed, the decline in demand in the FSU and eastern Europe is roughly equal to the increase in Asian oil demand. If the FSU decline levels off as expected, total non-OECD share of demand should increase significantly.

International Oil Supply

Figure 10. World Oil Production

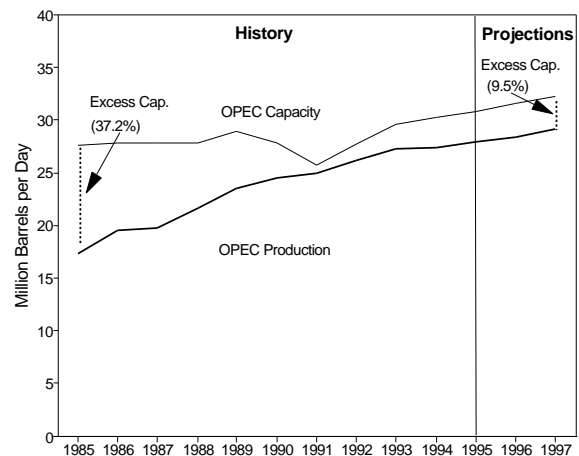


Mid World Oil Price Case

Sources: Energy Information Administration, Energy Markets and Contingency Information Division. Details provided in Figure References Section, p. 44.

- OPEC waits for its share of the pie to be served. The wait may last until late 1997, and even then, there may be some surprises for certain members. In any event, OPEC has made significant strides over the last half dozen years. In 1989, OPEC produced 23.5 million barrels per day, and in 1995, OPEC produced 28 million barrels per day (Table 3 and Figure 10), an increase of 4.5 million barrels per day compared to a rise in world demand of less than 4 million barrels per day. OPEC members waiting to increase production in 1997 may be in for a long wait if Iraq returns to the market.
- After increasing by over 400,000 barrels per day in 1995, petroleum production in the North Sea is expected to increase by another 600,000 barrels per day in 1996. However, little increase is expected from the North Sea in 1997. Continued small production increases by many non-OPEC developing countries¹² are expected to lead to significant increases in the aggregate.
- U.S. production is expected to continue to decline, falling by an average of 200,000 barrels per day in 1996 and 1997. For the first time

Figure 11. OPEC Oil Production and Capacity



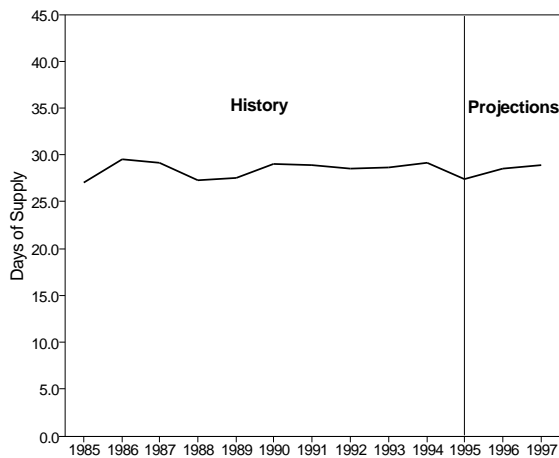
Mid World Oil Price Case

Sources: Energy Information Administration, Energy Markets and Contingency Information Division. Details provided in Figure References Section, p. 44.

- since 1989, production in the former Soviet Union is expected to increase. After remaining level in 1995, production is expected to increase by 100,000 barrels per day to 7.1 million barrels per day.
- With these developments, non-OPEC supply is projected to increase by 1.4 million barrels per day in 1996, and increase by 900,000 barrels per day in 1997. As a result, OPEC's market share declines through 1997.
- OPEC capacity additions of over 500,000 barrels per day are expected in both 1996 and 1997, resulting in continued price stability (Figure 11).
- OPEC excess production capacity (excluding Iraq) is currently 2.9 million barrels per day. Most of the excess capacity is in Saudi Arabia (2.0 million barrels per day), Kuwait (500,000 barrels per day), Iran (200,000 barrels per day), and the United Arab Emirates (200,000 barrels per day).¹³ Venezuela plans to utilize its capacity as it develops, which should be around 3.1 million barrels per day in 1996.

World Oil Stocks and Net Trade

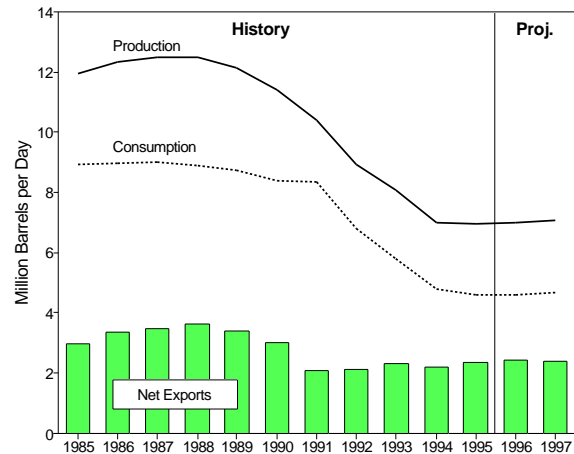
Figure 12. OECD Commercial Oil Stocks



Mid World Oil Price Case

Sources: Energy Information Administration, Energy Markets and Contingency Information Division. Details provided in Figure References Section, p. 44.

Figure 13. FSU Oil Output, Demand, and Net Exports



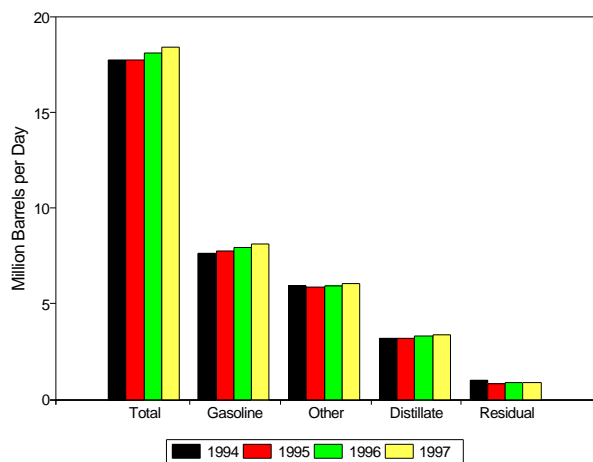
Mid World Oil Price Case

Sources: Energy Information Administration, Energy Markets and Contingency Information Division. Details provided in Figure References Section, p. 44.

- Commercial petroleum stock levels in the OECD, which were low near the end of 1995, are expected to be rebuilt through 1997. Days of supply in the OECD are also expected to recover as U.S. stock levels return to more normal levels (Figure 12 and Table 3). For the non-OECD countries, the expectation is that commercial stocks and days of supply are decreasing, indicating some tightening of world oil supplies. However, given the potential for large increases in production, it is doubtful that such tightness would translate into upward price pressure.
- Exports of crude oil worldwide currently are averaging 31.7 million barrels per day. About 55 per cent comes from OPEC countries. Saudi Arabia is by far the world's largest exporter, with almost 6 million barrels per day of crude exports (Table 3).
- Net exports from the FSU are expected to remain near 1995 levels. As production begins to increase, consumption is also expected to increase. Exports are expected to rise from 2.2 million barrels per day in 1994 to 2.4 million barrels per day in 1997 (Figure 13 and Table 3).
- Exports from the Persian Gulf region are expected to increase only slightly over the next year as regional consumption increases largely offset production increases. However, as North Sea production levels off next year, incremental supplies should reappear from the Persian Gulf area. In 1995, 18.4 million barrels were produced by the Persian Gulf countries, of which the United States imported 1.6 million barrels per day, Japan imported nearly 4.0, and western Europe imported almost 3 million barrels per day.¹⁴

U.S. Oil Demand

Figure 14. U.S. Petroleum Demand

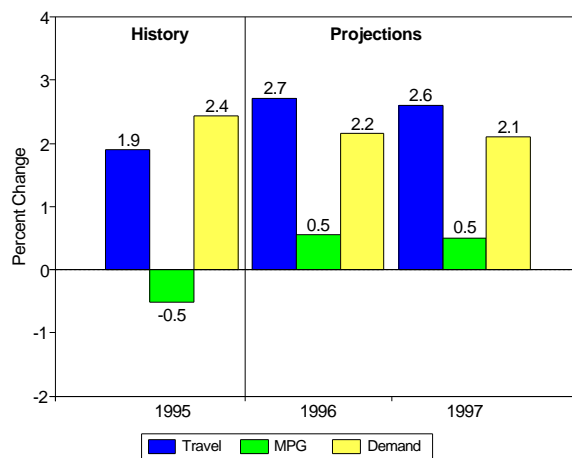


Mid World Oil Price Case

Sources: Second Quarter 1996 STIFS database. Details provided in Figure References Section, p. 44.

- Despite no growth in petroleum demand in the United States last year, an increase of 400,000 barrels per day is expected for 1996. An additional increase in 1997 of 350,000 barrels per day would raise expected domestic petroleum demand to 18.45 million barrels per day (Figure 14 and Table 6), which would be the highest level since 1979, and would be a strong step toward the all-time record of 18.85 million barrels per day set in 1978.¹⁵
- Weather is an important factor affecting how the 1996 demand picture is expected to play out. Colder weather in the first part of this year has already resulted in an estimate for first quarter 1996 demand which is over one half million barrels per day above last year. Meanwhile, a continuation of solid growth in transportation sector fuel demand is expected to carry the upward trend in demand through 1997, with an average growth rate of almost 2.0 percent seen for next year.
- Motor gasoline demand continues to set new records. Having grown by 2.4 percent in 1995, motor gasoline demand is projected to increase

Figure 15. Gasoline Market Indicators



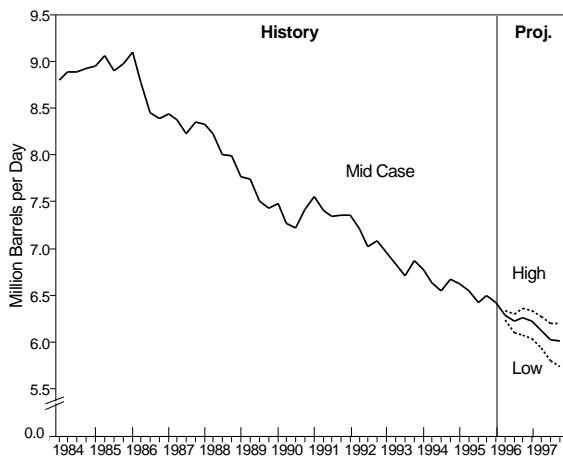
Mid World Oil Price Case

Sources: Second Quarter 1996 STIFS database. Details provided in Figure References Section, p. 44.

by an average of 2.1 percent during the forecast interval (Figure 15). This reflects an average growth rate in highway travel of about 2.7 percent. (See the "Summer Outlook for Motor Gasoline" section for a more in-depth discussion of the gasoline market this year.)

- Having increased by 50,000 barrels per day, or 1.9 percent, in 1995, distillate demand is projected to increase by 120,000 barrels per day in 1996 and another 50,000 barrels per day in 1997. Continued growth in transportation demand is expected to more than offset gradual declines in residential and commercial demand.
- Residual fuel oil demand declined an estimated 16.7 percent in 1995 as electric utilities and industrial customers continued to increase their consumption of natural gas. Nonetheless, demand is projected to stabilize and increase slightly during the forecast period, contributing to the positive growth in petroleum demand this year. The reduction in excess gas supplies, as well as increases in the relative price of natural gas to heavy fuel oil, should allow for a modest (if fleeting) recovery in residual fuel use.

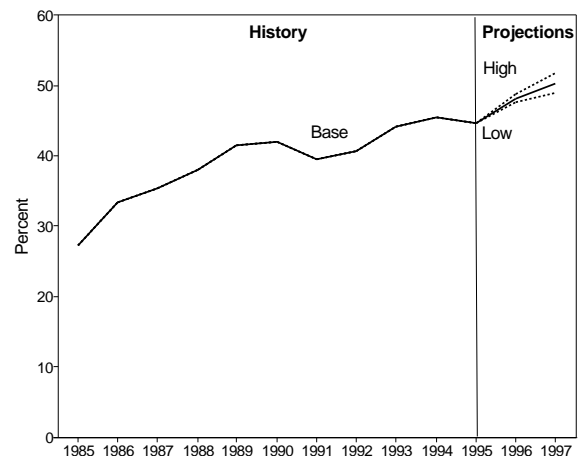
Figure 16. U.S. Crude Oil Production



Sources: Second Quarter 1996 STIFS database and Energy Information Administration, Reserves and Natural Gas Division. Details provided in Figure References Section, p. 44.

- At mid-case prices, total U.S. domestic crude oil production is expected to decline by 230,000 barrels per day, 3.5 percent, in 1996, and by an additional 200,000 barrels per day, 3.2 percent, in 1997 (Table 6 and Figure 16).
- Declining domestic crude oil production and low world crude oil prices contributed to an average 7.9 million barrels per day of net crude oil and petroleum products imports in 1995, well below the record 8.6 million barrels per day set in 1977. In 1996 and 1997, total petroleum net imports are projected to reach levels exceeding 1977's record high. Total net imports should equal 50 percent of total petroleum demand in 1997 in the base case (Figure 17). The net import share of demand could range between 52 and 49 percent in the low-to-high price ranges (Tables 5 and 7).
- Oil production in the lower 48 States is expected to drop by 100,000 barrels per day in 1996, and by 110,000 barrels per day in 1997. New oil production from the Federal Offshore is expected to account for about 8.0 percent of lower-48 oil production by the end of 1997 if scheduled production and development of new

Figure 17. U.S. Net Oil Imports' Share of Demand

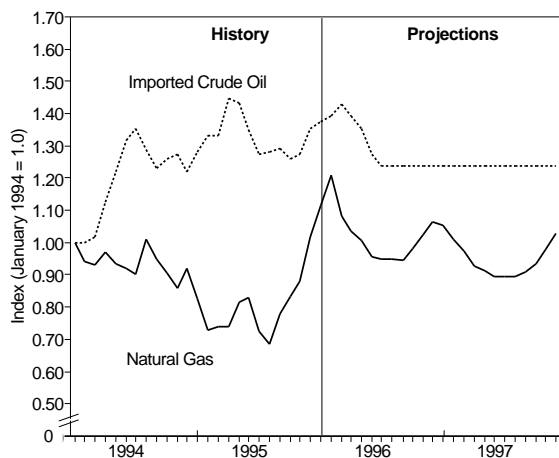


Sources: Second Quarter 1996 STIFS database. Details provided in Figure References Section, p. 44.

- projects occurs. In Federal waters of the Gulf of Mexico, Auger Field production is expected to increase to 70,000 barrels per day in mid-1996 due to installation of new production facilities. Mars Field production is expected to start in 1996 and peak at 100,000 barrels per day, while the Ram-Powell Field is expected to start in the last quarter of 1997 and peak at 60,000 barrels per day.¹⁶
- Oil production in Alaska is expected to decline by 8.7 percent in 1996, and by another 6.6 percent in 1997. Production from recent discoveries will partially offset the expected production decline from the giant Prudhoe Bay and other North Slope fields.¹⁷
- Crude oil production could be as high as 6.2 million barrels per day by the fourth quarter of 1996, given the high price case (Table 7), or as low as 5.7 million barrels per day under the low price scenario (Table 5).
- According to Baker Hughes, Inc., the rig count for 1995 averaged 724. The rig count is expected to increase to an average of 764 in 1996, but decrease to 756 in 1997.¹⁸

U.S. Energy Prices

Figure 18. U.S. Oil and Gas Prices

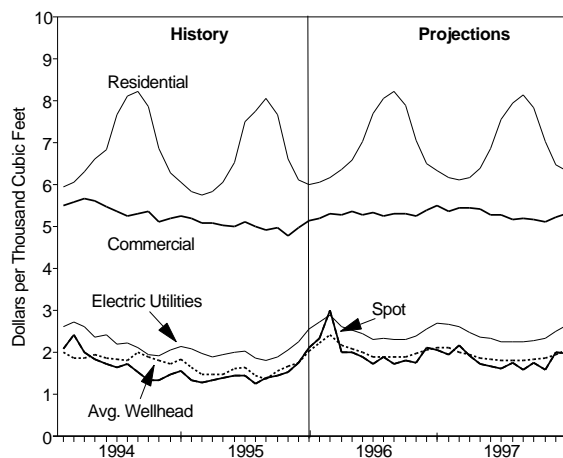


Mid World Oil Price Case

Sources: Second Quarter 1995 STIFS database. Details provided in Figure References Section, p. 44.

- After averaging over \$18.00 per barrel due to the cold weather in the first quarter of this year, world oil prices are expected to decline to \$16.00 per barrel by summer, then remain steady through 1997 (Figure 18). This projected price is based on the assumption that production increases from non-OPEC producers will keep a ceiling on prices (see Table 4 and "Outlook Assumptions," p. 8).
- Average natural gas spot wellhead prices surged to high levels in January and February, as cold weather resulted in some very rapid drawdowns in gas stocks, which were already depleted due to abnormally cold temperatures in November and December of 1995. Spot wellhead prices at the Henry Hub increased nearly six-fold during the week ending on February 2, but shortly thereafter fell precipitously.¹⁹ The cold weather affected not only demand but also supply, in a limited way, as freezing weather in the Gulf Coast region led to some loss of production.²⁰
- Gas inventories, already low at the end of November, reached a 20-year low at the end of December.²¹ The continued cold weather in much of the East and Midwest through January

Figure 19. Natural Gas Prices by Sector



Mid World Oil Price Case

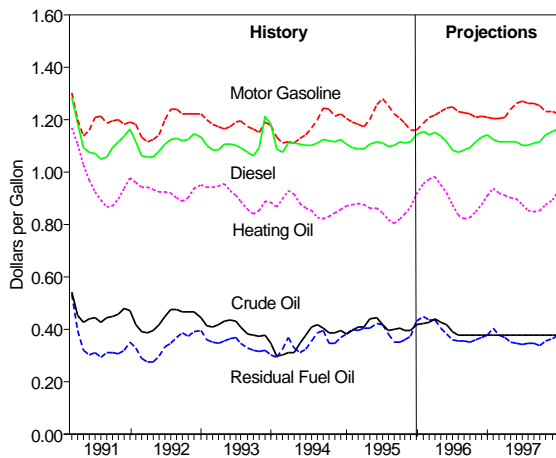
Sources: Second Quarter 1996 STIFS database. Details provided in Figure References Section, p. 44.

and much of February exacerbated the problem. These factors, in some instances, also led to constrained pipeline capacity and extremely high city gate prices (over \$20 per thousand btu in Chicago) as marketers scrambled to secure gas and ship it through pipelines to keep their contracts in balance.²² The severe price swings, while spectacular, affected a relatively small portion of total market volumes. Nevertheless, the experience of this winter is expected to lead to some re-evaluation of the rules of the game.²³

- The 1996 average natural gas wellhead price is projected to be over 45 cents per thousand cubic feet higher than the 1995 price due mainly to the first quarter year-to-year difference of nearly 75 cents per thousand cubic feet (Table 4 and Figure 19). The price for the second quarter is expected to be \$2.00 per thousand cubic feet, a decrease of 27 cents from the first quarter. With inventories not yet fully recovered, a cold spring could result in higher prices. In any case, high injection demand to replenish inventories is expected to keep spot wellhead prices above the prices seen in corresponding months of 1995, probably through the summer.

U.S. Energy Prices

Figure 20. Petroleum Product Prices

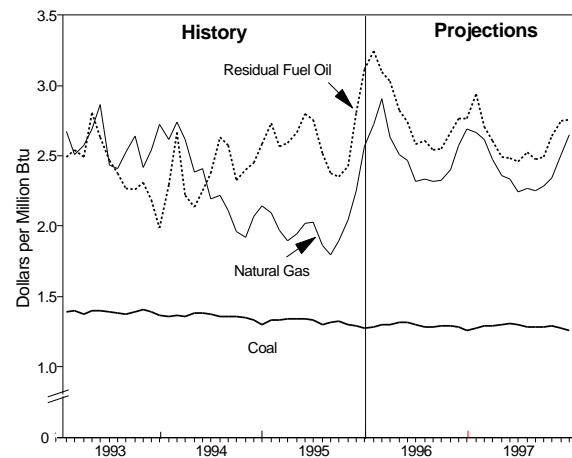


Mid World Oil Price Case

Sources: Second Quarter 1996 STIFS database. Details provided in Figure References Section, p. 44.

- In 1997, the average wellhead price is expected to decline by 15 cents per thousand cubic feet as normal winter weather, continued market efficiencies, increased domestic production, and growing Canadian imports offset rising demand. These changes in the wellhead price are expected to put some downward pressure on end-user prices, particularly for electric utilities and industrial customers, but also residential customers and commercial customers (Figure 20).
- Most retail petroleum product prices will increase moderately in the forecast period. Motor gasoline and diesel fuel oil prices should each gain about 1 penny per gallon in 1996 as higher demand offsets a small drop in crude oil prices (Table 4). In 1997, the price increase for gasoline is expected to be 1-2 cents per gallon, again the result of higher demand. Residential heating oil prices are expected to gain about 5 cents per gallon in 1996, with much of the increase resulting from the effects of the winter weather earlier this year.
- Unlike the other major petroleum product prices, residual fuel oil prices should decline in

Figure 21. Fossil Fuel Prices to Electric Utilities



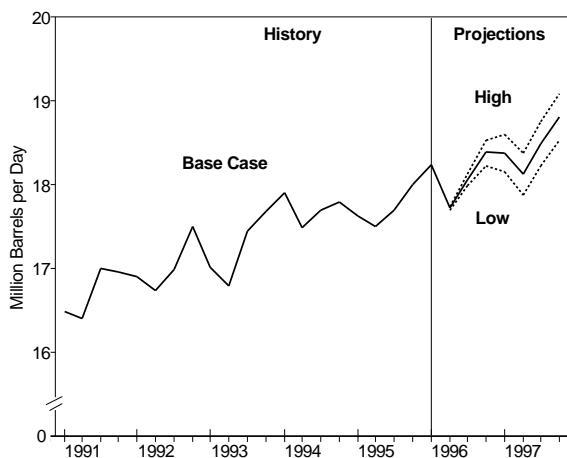
Mid World Oil Price Case

Sources: Second Quarter 1996 STIFS database. Details provided in Figure References Section, p. 44.

- both 1996 and 1997. These prices are expected to follow the crude oil price path, which is also projected to decrease from 1995 through 1997 (Table 4 and Figure 21). In addition, the unusual weather-related difference (50 cents per barrel) between crude oil and residual fuel oil that is projected for 1996 is expected to return to a more historical difference of 80 cents per barrel in 1997.
- Annual average residential electricity prices are projected to remain nearly flat through 1997. This is the result of moderate costs for labor, capital, and fossil fuels. Also, generation from non-utility producers and increased conservation efforts has reduced the need to build expensive new power plants.
- Coal prices to electric utilities fell in 1995 to their lowest level since 1979,²⁴ and are expected to continue to decrease through 1997 (Table 4 and Figure 18). Continued gains in mining productivity have resulted in a downward price path for coal.

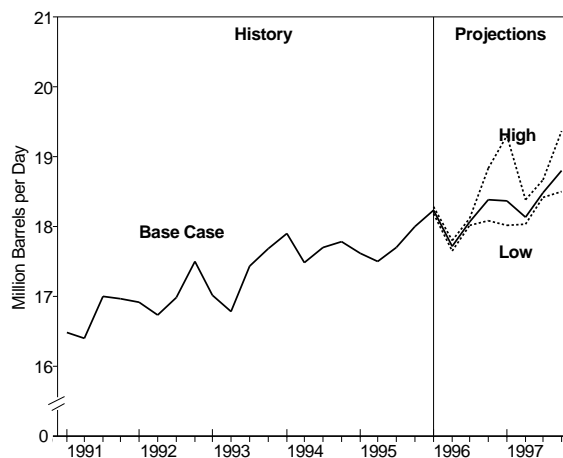
U.S. Oil Demand and Supply Sensitivities

Figure 22. Total Petroleum Demand: Macro Cases



Sources: Second Quarter 1996 STIFS database. Details provided in Figure References Section, p. 44.

Figure 23. Total Petroleum Demand: Weather Cases

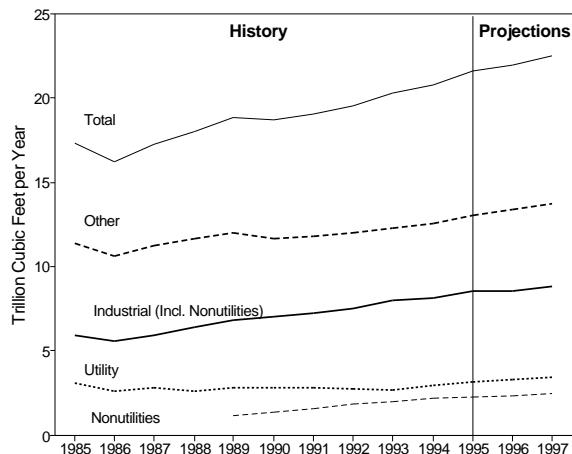


Sources: Second Quarter 1996 STIFS database. Details provided in Figure References Section, p. 44.

- The petroleum demand and supply outlook for the mid-price case is based on assumed normal temperatures and GDP growth of 1.7 and 2.2 percent per year in 1996 and 1997. To enhance the usefulness of the mid-case forecast, ranges of possible outcomes for petroleum demand and supply, using alternative macroeconomic, price, and weather assumptions, are also derived (Tables 5 and 7). Plausible macroeconomic and weather-related petroleum demand cases are illustrated in Figures 22 and 23.
- The petroleum price sensitivity assumes that nonpetroleum prices remain constant. The weather sensitivities assume deviations above and below normal that correspond to one-half of the largest quarterly deviations from normal in heating and cooling degree-days over the last 15 years.
- A 1-percent increase in real GDP raises petroleum demand by about 114,000 barrels per day. The impact of shifts in economic growth varies depending upon distribution of incremental growth across energy-intensive and non-energy-intensive sectors (Table 8).
- A \$1-per-barrel increase in crude oil prices, assuming no price response from non-petroleum energy sources, reduces demand by about 50,000 barrels per day (Tables 8 and 9).
- A \$1-per-barrel increase in crude oil prices boosts domestic oil supply (crude oil and natural gas liquids production) by about 90,000 barrels per day.
- A 1-percent increase in heating degree-days increases demand by about 27,000 barrels per day. The impact of heating degree-day deviations from normal is not likely to be symmetrical. Extremely cold weather could result in indirect effects on fuel oil markets due to potential natural gas supply constraints that have no counterparts in the case of mild weather.
- A 1-percent increase in cooling degree-days increases petroleum demand by about 6,000 barrels per day. (See Appendix for sensitivity calculation methodology.)

U.S. Natural Gas Demand

Figure 24. U.S. Natural Gas Demand Trends

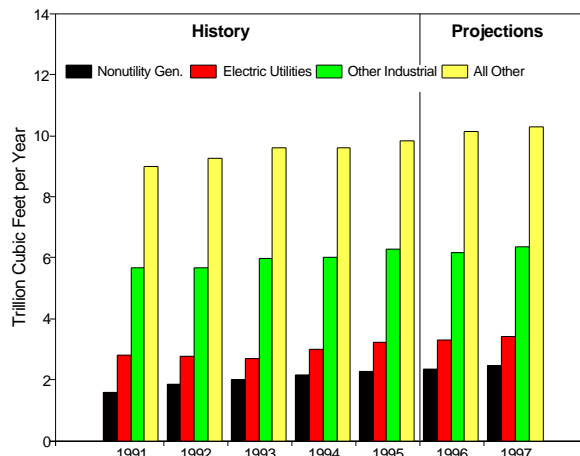


Mid World Oil Price Case

Sources: Second Quarter 1996 STIFS database. Details provided in Figure References Section, p. 44.

- In 1996 and 1997, U.S. natural gas demand is expected to reach its highest levels since 1973.²⁵ Assumptions of normal temperatures together with continued economic growth are expected to help raise total annual gas demand in 1996 to a high of 21.9 trillion cubic feet, as demand grows by 1.7 percent (Figure 24 and Table 10). In 1997, natural gas demand is expected to rise by an additional 2.7 percent, to 22.5 trillion cubic feet, as economic growth recovers from slower 1996 levels.
- In 1996, due mainly to assumptions of normal weather, residential demand is expected to be up by 3.5 percent. This growth also reflects the continued addition of new households and new residential natural gas customers.
- Natural gas prices are expected to remain above year-earlier levels through most of 1996, reflecting the contrast in 1996 to the excess inventory situation that characterized the first 9 months or so of 1995. Expected growth in consumption plus extra injection demand should buoy prices through the end of the year, although by the fourth quarter the price increases relative to 1995 should be small.

Figure 25. Natural Gas Demand for Power Generation and Other Uses



Mid World Oil Price Case

Note: "All Other" denotes residential and commercial demand.

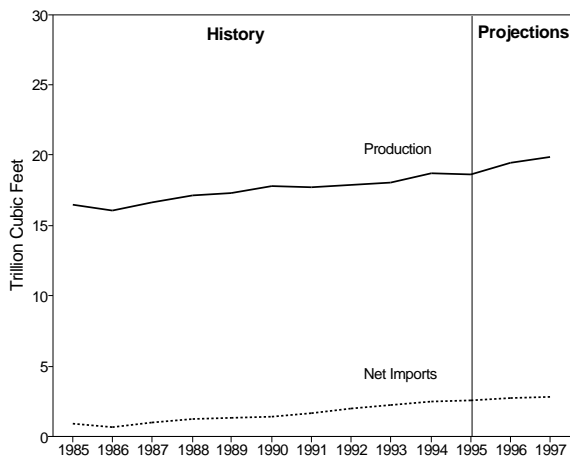
Sources: Second Quarter 1996 STIFS database. Details provided in Figure References Section, p. 44.

Thus, gas use in the industrial sector in 1996 is likely to remain at about 1995 levels. In 1997, industrial gas demand is expected to grow by 3.5 percent as gas prices decline somewhat and the economy continues to expand (Figure 25).

- Growth in gas consumption for power generation is expected to slow in 1996 from the relatively rapid (5.4 percent at electric utilities) rate of 1995, due to relatively high peak demand-period (January and February) prices and slower electricity demand growth (partly due to slower economic growth and partly due to the expectation that this summer will probably be cooler than summer 1995). In 1997, gas used for electricity generation should continue to grow as electricity demand growth continues and as hydroelectric and nuclear power sources fade as incremental supply sources. (Tables 10 and 12).
- Commercial sector demand, which posted a healthy increase of 5.5 percent in 1995 despite a weak start due to mild weather, is expected to continue to rise in 1996 and 1997. The pace of growth is expected to be slower, in line with commercial activity growth.

U.S. Natural Gas Supply

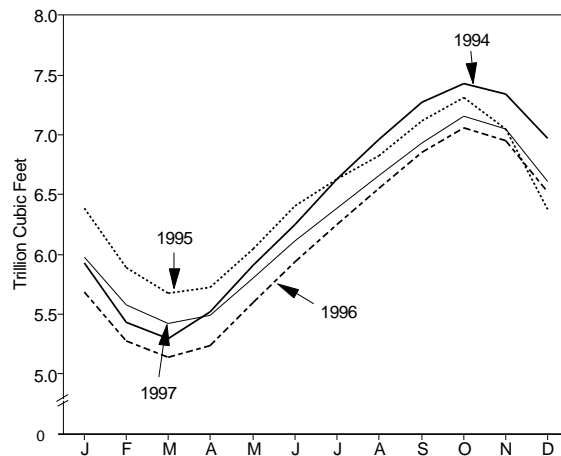
Figure 26. U.S. Dry Gas Production and Net Imports



Mid World Oil Price Case

Sources: Second Quarter 1996 STIFS database and Energy Information Administration, Reserves and Natural Gas Division. Details provided in Figure References Section, p. 44.

Figure 27. Total Gas in Underground Storage



Mid World Oil Price Case

Sources: Second Quarter 1995 STIFS database. Details provided in Figure References Section, p. 44.

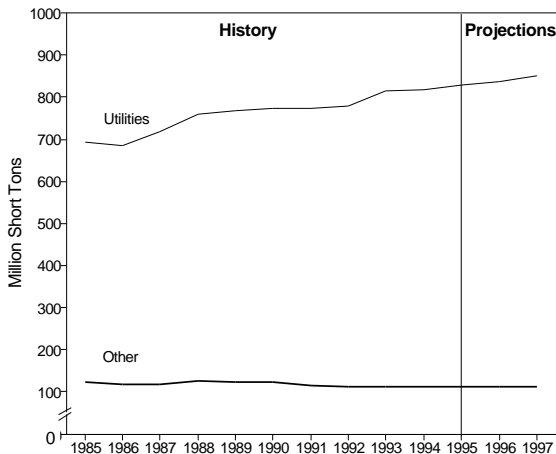
- U.S. dry gas production is expected to rise through the forecast period, encouraged by higher wellhead prices and necessitated by growth of nearly 1 trillion cubic feet in annual demand over the 1995 to 1997 period. Growth in 1996 is expected to be especially strong (4.5 percent) because of the need to rebuild inventories this year. (Production was somewhat depressed last year, despite solid demand growth, because, for much of the year, an excess of gas in storage hung over the market and depressed prices).
- In 1997, demand growth of 2.6 percent and dwindling excess import capacity are expected to keep dry gas output rising at about a 2.5-percent annual rate. 1997 dry gas production is expected to come close to breaking the 20 trillion cubic feet mark for the year, and this could easily happen if winter weather is colder than normal (Figure 26 and Table 10).
- The industry will have to inject heavily this spring to get storage refilled after the steep drop in storage this winter to well below last year's levels. Supply disruptions caused by the extremely cold weather in the midwest, combined with low levels of storage stocks, will

keep 1996 prices at considerably higher levels than last year. Natural gas storage levels at week end March 1 were 858 billion cubic feet of working gas, or 27 percent full. This was 472 billion cubic feet less than levels seen at this time a year ago, when they were relatively high (Figure 27).²⁶

- A high rate of gas storage injection this spring and summer is expected to gradually return storage to normal levels by fourth quarter 1996, but this will probably cause continued upward pressure on spot and wellhead prices through the third quarter 1996.
- The Baker Hughes natural gas rig count for the month of February was 411 rigs. This number was equal to 58.7 percent of all rigs drilling.²⁷
- The rate of increase in gas production will be less than that for consumption, making room for increased imports. Net natural gas imports are forecast to continue to expand through the forecast, by 7.9 percent in 1996, and by 1.5 percent in 1997. In 1997, net natural gas imports are expected to amount to 12.3 percent of total U.S. demand.

U.S. Coal Demand and Supply

Figure 28. U.S. Coal Demand Trends

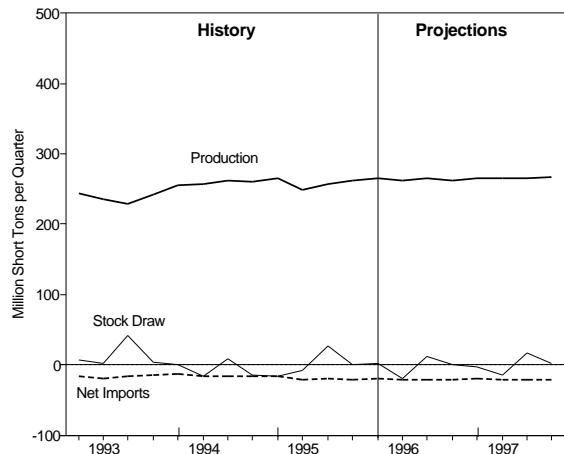


Mid World Oil Price Case

Sources: Second Quarter 1996 STIFS database. Details provided in Figure References Section, p. 44.

- Electricity demand growth will continue to be the main impetus for increases in coal consumption. Total coal demand is expected to increase by 0.8 percent in 1996 (Table 11), and grow by 1.7 percent in 1997 (Figure 28).
- Coal consumed by utility and nonutility generators to produce electricity is expected to grow by 0.9 percent in 1996 (Table 11). In 1997, growth in demand for electricity, coupled with declines in hydroelectric generation and no growth in nuclear-fired generation, leads to a 1.9 percent increase in coal consumption by the electricity sector.
- Demand growth for coal at coke plants is expected to be negative throughout the forecast, as a result of coking plant capacity constraints. The limitations on coke production have led to increased reliance on imports of coke and the supplemental use of non-coke methods of steel production (steel recycling and electric-arc

Figure 29. Components of U.S. Coal Supply



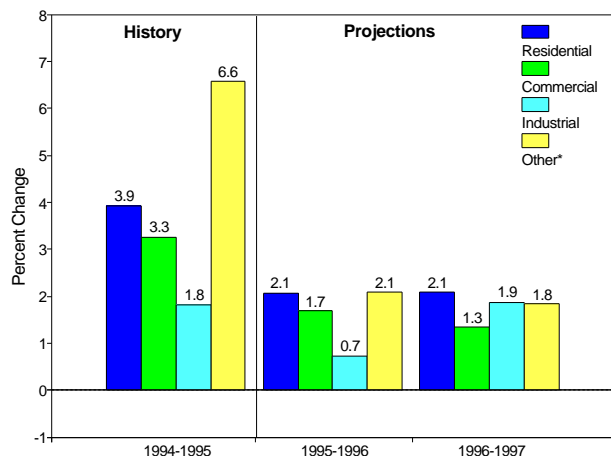
Mid World Oil Price Case

Sources: Second Quarter 1996 STIFS database and Energy Information Administration, Office of Coal, Nuclear, Electric, and Alternative Fuels. Details provided in Figure References Section, p. 44.

- furnaces) by the iron and steel industry. A 5.1 percent increase in steel output in 1995 was accompanied by a 3.4 percent increase in coking coal demand (Table 11).
- Demand of 80.4 million short tons of coal in 1996 is projected from the retail and general industry sectors, a 0.7 percent increase from 1995. Future demand growth will be hindered by coal being displaced to meet environmental regulations in the retail and general industry sectors.
- U.S. coal exports are expected to grow in 1996, increasing by 2.3 percent. Exports should continue growing in 1997, as worldwide demand improves (Table 11).
- Coal production is expected to grow by 1.7 percent in 1996, and by 1.1 percent in 1997, with annual output reaching 1,062 million short tons in 1997 (Figure 29).

U.S. Electricity Demand and Supply

Figure 30. U.S. Electricity Demand

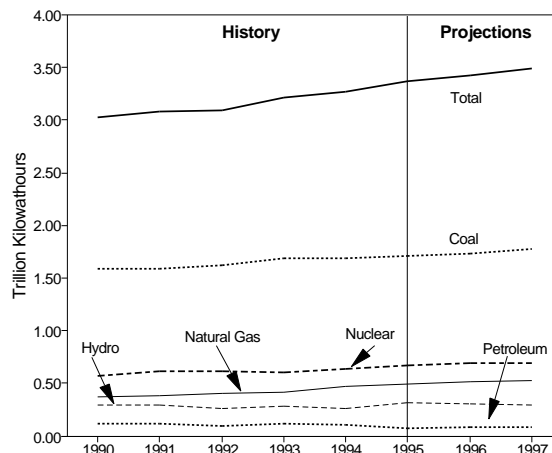


*Includes nonutility own use

Mid World Oil Price Case

Sources: Second Quarter 1996 STIFS database. Details provided in Figure References Section, p. 44.

Figure 31. U.S. Electricity Production*



*Includes nonutilities

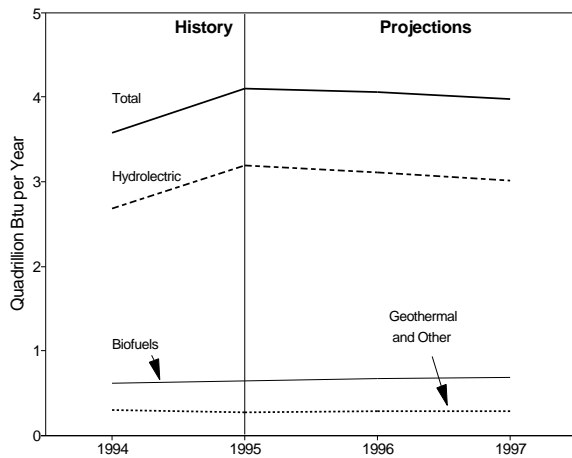
Mid World Oil Price Case

Sources: Second Quarter 1996 STIFS database and Energy Information Administration, Office of Coal, Nuclear, Electric and Alternate Fuels. Details provided in Figure References Section, p. 44.

- In 1996 and 1997, total electricity demand is expected to continue to grow, but at considerably slower rates than the 3.0 percent seen in 1995. This is due mainly to lower expectations for economic growth, and the assumption of normal weather, which means fewer cooling degree days than in 1995.
- Residential demand growth for electricity in 1996 and 1997 is projected at 2.1 percent compared with 3.9 percent in 1995. Normal weather this year implies higher demand in the first quarter and sharply lower demand in the summer compared to 1995.
- Commercial sector demand is projected to rise by 1.7 percent in 1996 and by 1.3 percent in 1997, due primarily to expanding employment (Figure 30 and Table 12).
- Industrial demand is projected to grow more slowly in 1996 at 0.7 percent due to slower economic growth than in 1995, and to grow by 1.9 percent in 1997, reflecting a rebound in economic growth, in particular, higher industrial output (Table 12).
- U.S. utilities are expected to generate about 1.1 percent more electricity in 1996 and 1.5 percent more in 1997. Nonutility generation is expected to increase at faster rates of 6.0 percent in 1996 and 4.2 percent in 1997 as a result of capacity additions (Table 12).²⁸
- Hydropower generation by electric utilities is expected to decrease in 1996 and 1997 from 1995 levels which were abnormally high partially due to rapid recovery of streamflow levels in the Pacific Northwest following a drought in the early 1990s. The projected decreases reflect water conditions gradually returning to more normal levels (Figure 31).
- Nuclear power generation is expected to rise in 1996, as Watts Bar 1 goes on-line and Browns Ferry 3 returns to service.²⁹ In 1997 nuclear power generation is expected to remain at close to 1996 levels.
- Net imports of electricity from Canada are forecast to be somewhat lower than in 1995 because of the slower rates of growth in U.S. electricity demand over the forecast period.

U.S. Renewable Energy Demand

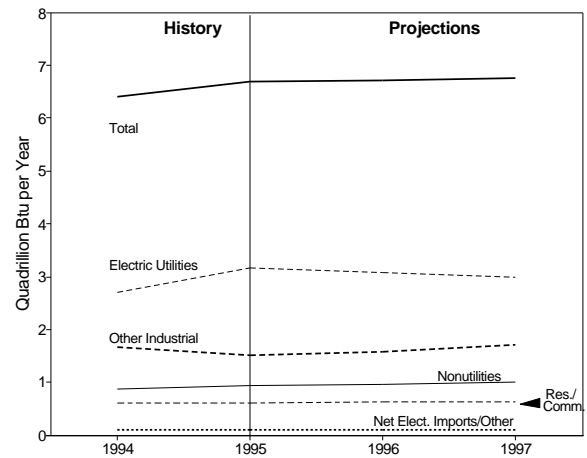
Figure 32. Renewable Energy Use for Electricity



Mid World Oil Price Case

Sources: Second Quarter 1996 STIFS database. Details provided in Figure References Section, p. 44.

Figure 33. Renewable Energy Use by Sector



Mid World Oil Price Case

Sources: Second Quarter 1996 STIFS database and Energy Information Administration, Office of Coal, Nuclear, Electric and Alternate Fuels. Details provided in Figure References Section, p. 44.

- Renewable energy use in the United States amounted to about 6.8 quadrillion Btu (quads), or about 7.5 percent of total domestic gross energy demand in 1995 (Table 13). In 1995, renewables demand growth increased by 4.7 percent due to an overall increase in hydroelectric power availability. In 1996, renewables growth is expected to increase by only 0.4 percent, as hydroelectric power generation declines somewhat.
- More than half of all renewable energy use measured by EIA is associated with the production of electricity. While the biggest component of electricity producers' use of renewables is hydroelectric power generated by electric utilities (Figure 32), a significant and growing share of renewables use occurs at nonutility generating facilities.
- Hydropower generation by electric utilities is expected to decrease in 1996 and 1997 from the high 1995 levels because the above normal streamflow in the Pacific Northwest is expected to return to more normal levels.
- Most of the nonutility use of renewables involves biofuels, principally wood, wood by-products, and waste. However, all of the major forms of renewables used at nonutilities (including hydropower) are projected to grow.
- On balance, it is expected that of a 0.43 quad increase in total use of renewables in the power generation sector over the 3-year period from 1994 through 1997, about one-third will have come from expansion of nonutility power.
- Currently, aside from power generation, the most significant area of renewables use is in the industrial sector, accounting for 22 percent of the total in 1995 (Figure 32). This component is principally biofuels.
- Renewables use in the combined residential and commercial sector, at about 0.61 quad in 1995, accounts for about 9 percent of total domestic renewables demand. Most of this energy is wood used for home heating, with only a very small amount having to do with solar hot water heating.

Table 1. U.S. Macroeconomic and Weather Assumptions

	Macro Case	1995				1996				1997				Year		
		1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1995	1996	1997
Macroeconomic ^a																
Real Gross Domestic Product (billion chained 1992 dollars - SAAR) . . .	High Mid Low	6702	6709	6763	6786	6804	6842 6826 6810	6922 6867 6812	7005 6908 6812	7081 6945 6808	7128 6981 6835	7168 7020 6873	7208 7059 6911	6740	6893 6851 6810	7146 7001 6857
Percentage Change from Prior Year . . .	High Mid Low	3.0	1.9	1.9	1.4	1.5	2.0 1.7 1.5	2.3 1.5 0.7	3.2 1.8 0.4	4.1 2.1 0.1	4.2 2.3 0.4	3.6 2.2 0.9	2.9 2.2 1.5	2.1	2.3 1.7 1.0	3.7 2.2 0.7
Annualized Percent Change from Prior Quarter	High Mid Low	0.6	0.5	3.2	1.4	1.1	2.2 1.3 0.4	4.7 2.4 0.1	4.8 2.4 0.0	4.3 2.1 -0.2	2.6 2.1 1.6	2.2 2.2 2.2	2.2			
GDP Implicit Price Deflator (Index, 1992=1.000)	High Mid Low	1.067	1.073	1.080	1.086	1.095	1.099 1.100 1.101	1.102 1.105 1.108	1.106 1.111 1.116	1.111 1.118 1.124	1.117 1.124 1.131	1.122 1.130 1.138	1.129 1.137 1.145	1.077	1.101 1.103 1.105	1.120 1.127 1.135
Percentage Change from Prior Year . . .	High Mid Low	2.5	2.6	2.7	2.6	2.6	2.5 2.5 2.6	2.0 2.3 2.6	1.8 2.3 2.7	1.5 2.1 2.7	1.6 2.2 2.8	1.8 2.3 2.7	2.0 2.3 2.6	2.6	2.2 2.4 2.6	1.7 2.2 2.7
Real Disposable Personal Income (billion chained 1992 Dollars - SAAR) . .	High Mid Low	4896	4896	4940	4962	5012	5033 5021 5009	5085 5043 5000	5149 5074 4999	5213 5108 5002	5235 5122 5009	5258 5145 5031	5286 5172 5058	4923	5070 5037 5005	5248 5136 5025
Percentage Change from Prior Year . . .	High Mid Low	4.9	2.4	2.8	2.3	2.4	2.8 2.6 2.3	2.9 2.1 1.2	3.8 2.3 0.8	4.0 1.9 -0.2	4.0 2.0 0.0	3.4 2.0 0.6	2.7 1.9 1.2	3.1	3.0 2.3 1.7	3.5 2.0 0.4
Manufacturing Production (Index, 1987=1.000)	High Mid Low	1.240	1.233	1.241	1.246	1.242	1.256 1.249 1.242	1.288 1.265 1.242	1.317 1.277 1.237	1.347 1.290 1.233	1.366 1.304 1.242	1.380 1.318 1.256	1.392 1.329 1.266	1.240	1.276 1.258 1.241	1.371 1.311 1.250
Percentage Change from Prior Year . . .	High Mid Low	6.3	3.6	3.0	1.5	0.2	1.8 1.3 0.7	3.7 1.9 0.0	5.7 2.5 -0.7	8.5 3.9 -0.7	8.8 4.4 0.0	7.2 4.2 1.2	5.7 4.1 2.4	3.6	2.9 1.5 0.0	7.5 4.2 0.7
OECD Economic Growth (percent) ^b . . .														2.4	2.3	2.8
Weather ^c																
Heating Degree-Days																
U.S.		2153	580	108	1721	2313	524	89	1636	2327	524	89	1636	4562	4562	4576
New England		3024	989	221	2362	3276	915	171	2269	3267	915	171	2269	6596	6630	6621
Middle Atlantic		2772	778	124	2152	2981	716	105	2026	2993	716	105	2026	5826	5828	5839
U.S. Gas-Weighted		2164	631	127	1785	2422	539	81	1686	2426	539	81	1686	4707	4728	4732
Cooling Degree-Days (U.S.)		32	322	864	61	28	334	758	72	30	334	758	72	1279	1191	1193

^aMacroeconomic projections from DRI/McGraw-Hill model forecasts are seasonally adjusted at annual rates and modified as appropriate to the mid world oil price case. These mid-case macroeconomic projections are then modified by the low and high world oil price cases (as shown in Table 5) and by various explicit economic assumptions, with the low world oil price case applied to the high macroeconomic case, and the high world oil price case applied to the low macroeconomic case. In accordance with the January 1996 revisions of the National Income and Product Accounts by the Bureau of Economic Analysis, macroeconomic measures have been changed from fixed-weighted to chain-weighted, and base year has been changed from 1987 to 1992.

^bOECD: Organization for Economic Cooperation and Development: Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Japan, Luxembourg, the Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, Turkey, the United Kingdom, and the United States. Mexico is also a member, but is not yet included in OECD data.

^cPopulation-weighted degree days. A degree day indicates the temperature variation from 65 degrees Fahrenheit (calculated as the simple average of the daily minimum and maximum temperatures) weighted by 1990 population. Normal is used for the forecast period and is defined as the average number of degree days between 1961 and 1990 for a given period.

SAAR: Seasonally-adjusted annualized rate.

Note: Historical data are printed in bold, forecasts are in italic.

Sources: Historical data: Energy Information Administration, *Monthly Energy Review*, DOE/EIA-0035(96/02); U.S. Department of Commerce, Bureau of Economic Analysis, *Survey of Current Business*, November 1995; U.S. Department of Commerce, National Oceanic and Atmospheric Administration, *Monthly State, Regional, and National Heating/Cooling Degree Days Weighted by Population*; Federal Reserve System, *Statistical Release G.17(419)*, January 1996. Macroeconomic projections are based on DRI/McGraw-Hill Forecast CONTROL0296.

Table 2. U.S. Energy Indicators: Mid World Oil Price Case

	1995				1996				1997				Year		
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1995	1996	1997
Macroeconomic ^a															
Real Fixed Investment (billion chained 1992 dollars-SAAR)	970	966	981	994	<i>1002</i>	<i>1006</i>	<i>1007</i>	<i>1005</i>	<i>1003</i>	<i>1006</i>	<i>1014</i>	<i>1025</i>	978	<i>1005</i>	<i>1012</i>
Real Exchange Rate (index)	0.997	0.937	0.965	0.979	<i>0.997</i>	<i>0.983</i>	<i>0.969</i>	<i>0.953</i>	<i>0.935</i>	<i>0.936</i>	<i>0.938</i>	<i>0.940</i>	0.969	<i>0.975</i>	<i>0.938</i>
Business Inventory Change (billion chained 1992 dollars-SAAR)	8.6	11.3	15.5	10.1	<i>7.8</i>	<i>3.0</i>	<i>3.5</i>	<i>7.0</i>	<i>7.7</i>	<i>9.0</i>	<i>11.2</i>	<i>11.9</i>	11.4	<i>5.3</i>	<i>10.0</i>
Producer Price Index (index, 1980-1984=1.000)	1.236	1.248	1.251	1.257	<i>1.259</i>	<i>1.255</i>	<i>1.254</i>	<i>1.257</i>	<i>1.262</i>	<i>1.265</i>	<i>1.269</i>	<i>1.274</i>	1.248	<i>1.256</i>	<i>1.268</i>
Consumer Price Index (index, 1980-1984=1.000)	1.510	1.522	1.530	1.538	<i>1.551</i>	<i>1.561</i>	<i>1.572</i>	<i>1.583</i>	<i>1.594</i>	<i>1.604</i>	<i>1.615</i>	<i>1.626</i>	1.525	<i>1.567</i>	<i>1.610</i>
Petroleum Product Price Index (index, 1980-1984=1.000)	0.584	0.647	0.610	0.585	<i>0.658</i>	<i>0.638</i>	<i>0.602</i>	<i>0.600</i>	<i>0.629</i>	<i>0.616</i>	<i>0.603</i>	<i>0.601</i>	0.606	<i>0.625</i>	<i>0.612</i>
Non-Farm Employment (millions)	116.1	116.4	116.8	117.2	<i>117.4</i>	<i>117.8</i>	<i>118.2</i>	<i>118.6</i>	<i>119.1</i>	<i>119.5</i>	<i>120.0</i>	<i>120.6</i>	116.6	<i>118.0</i>	<i>119.8</i>
Commercial Employment (millions)	77.7	78.1	78.5	79.0	<i>79.2</i>	<i>79.6</i>	<i>80.0</i>	<i>80.4</i>	<i>80.8</i>	<i>81.2</i>	<i>81.6</i>	<i>82.1</i>	78.3	<i>79.8</i>	<i>81.4</i>
Total Industrial Production (index, 1987=1.000)	1.218	1.214	1.223	1.226	<i>1.225</i>	<i>1.227</i>	<i>1.242</i>	<i>1.253</i>	<i>1.264</i>	<i>1.276</i>	<i>1.289</i>	<i>1.299</i>	1.220	<i>1.237</i>	<i>1.282</i>
Housing Stock (millions)	109.2	109.6	109.9	110.3	<i>110.6</i>	<i>111.0</i>	<i>111.3</i>	<i>111.6</i>	<i>111.9</i>	<i>112.2</i>	<i>112.5</i>	<i>112.8</i>	109.8	<i>111.1</i>	<i>112.4</i>
Miscellaneous															
Gas Weighted Industrial Production (index, 1987=1.000)	1.185	1.176	1.177	1.182	<i>1.175</i>	<i>1.182</i>	<i>1.193</i>	<i>1.205</i>	<i>1.214</i>	<i>1.224</i>	<i>1.232</i>	<i>1.239</i>	1.180	<i>1.189</i>	<i>1.227</i>
Vehicle Miles Traveled (million miles/day)	6142	6793	6953	6458	<i>6272</i>	<i>6974</i>	<i>7157</i>	<i>6663</i>	<i>6451</i>	<i>7152</i>	<i>7329</i>	<i>6832</i>	6588	<i>6767</i>	<i>6943</i>
Vehicle Fuel Efficiency (miles per gallon)	19.55	20.38	20.87	19.74	<i>19.54</i>	<i>20.59</i>	<i>20.97</i>	<i>19.89</i>	<i>19.74</i>	<i>20.65</i>	<i>21.04</i>	<i>19.96</i>	20.15	<i>20.26</i>	<i>20.36</i>
Real Vehicle Fuel Cost (cents per mile)	4.00	4.01	3.84	3.85	<i>3.98</i>	<i>3.87</i>	<i>3.72</i>	<i>3.84</i>	<i>3.84</i>	<i>3.80</i>	<i>3.70</i>	<i>3.79</i>	3.93	<i>3.85</i>	<i>3.78</i>
Air Travel Capacity (mill. available ton-miles/day)	371.0	380.0	396.1	383.7	<i>383.2</i>	<i>397.8</i>	<i>413.9</i>	<i>403.5</i>	<i>398.5</i>	<i>415.8</i>	<i>434.1</i>	<i>424.6</i>	382.8	<i>399.6</i>	<i>418.4</i>
Aircraft Utilization (mill. revenue ton-miles/day)	202.4	218.4	230.5	214.9	<i>210.0</i>	<i>225.2</i>	<i>240.3</i>	<i>224.2</i>	<i>220.7</i>	<i>237.9</i>	<i>253.6</i>	<i>237.6</i>	216.6	<i>224.9</i>	<i>237.5</i>
Aircraft Yield (cents per ton-mile)	13.33	13.57	13.11	13.55	<i>13.83</i>	<i>13.23</i>	<i>12.39</i>	<i>13.20</i>	<i>13.65</i>	<i>13.16</i>	<i>12.37</i>	<i>13.21</i>	13.39	<i>13.16</i>	<i>13.10</i>
Raw Steel Production (millions)	26.55	25.31	25.43	25.94	<i>24.27</i>	<i>23.04</i>	<i>22.13</i>	<i>23.16</i>	<i>24.06</i>	<i>23.02</i>	<i>22.24</i>	<i>23.64</i>	102.94	<i>92.61</i>	<i>92.96</i>

^aMacroeconomic projections from DRI/McGraw-Hill model forecasts are seasonally adjusted at annual rates and modified as appropriate to the mid world oil price case. These mid-case macroeconomic projections are then modified by the low and high world price cases (as shown in Table 4) and by various explicit economic assumptions, with low world oil price case applied to the high macroeconomic case, and high world oil price case applied to the low macroeconomic case. In accordance with the January 1996 revisions of the National Income and Product Accounts by the Bureau of Economic Analysis, macroeconomic measures have been changed from fixed-weighted to chain-weighted, and base year has been changed from 1987 to 1992.

SAAR: Seasonally-adjusted annualized rate.

Note: Historical data are printed in bold, forecasts are in italic.

Sources: Historical data: Energy Information Administration, *Monthly Energy Review*, DOE/EIA-0035(96/02); U.S. Department of Commerce, Bureau of Economic Analysis, *Survey of Current Business*, November 1995; U.S. Department of Commerce, National Oceanic and Atmospheric Administration, *Monthly State, Regional, and National Heating/Cooling Degree Days Weighted by Population*; Federal Reserve System, *Statistical Release G.17(419)*, November 1995. Macroeconomic projections are based on DRI/McGraw-Hill Forecast CONTROL0296.

Table 3. International Petroleum Supply and Demand: Mid World Oil Price Case
(Million Barrels per Day, Except Closing Stocks)

	1995				1996				1997				Year		
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1995	1996	1997
Demand ^a															
OECD															
U.S. (50 States)	17.6	17.5	17.7	18.0	18.2	17.7	18.1	18.4	18.4	18.1	18.5	18.8	17.7	18.1	18.4
U.S. Territories	0.2	0.3	0.2	0.3	0.2	0.3	0.3	0.3	0.2	0.3	0.3	0.3	0.3	0.3	0.3
Canada	1.8	1.7	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
Europe ^b	14.0	13.5	13.7	14.2	14.2	13.7	13.9	14.4	14.3	13.9	14.0	14.5	13.9	14.0	14.2
Japan	6.4	5.2	5.3	5.9	6.5	5.3	5.4	6.0	6.6	5.3	5.5	6.1	5.7	5.8	5.9
Australia and New Zealand	0.9	1.0	1.0	1.0	0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Total OECD	41.0	39.2	39.7	41.2	41.8	39.7	40.4	41.8	42.3	40.3	41.1	42.6	40.3	40.9	41.6
Non-OECD															
Former Soviet Union	5.1	4.2	4.4	4.7	5.1	4.2	4.4	4.7	5.2	4.3	4.5	4.8	4.6	4.6	4.7
Europe	1.5	1.3	1.3	1.4	1.6	1.4	1.4	1.5	1.6	1.4	1.4	1.5	1.4	1.4	1.5
China	3.3	3.3	3.3	3.4	3.5	3.5	3.5	3.6	3.6	3.6	3.6	3.7	3.3	3.5	3.7
Other Asia	8.0	7.8	7.6	8.5	8.5	8.3	8.1	9.1	9.1	8.8	8.6	9.6	8.0	8.5	9.0
Other Non-OECD	12.1	12.1	12.2	12.4	12.4	12.4	12.5	12.7	12.7	12.7	12.8	13.0	12.2	12.5	12.8
Total Non-OECD	30.0	28.7	28.8	30.4	31.0	29.7	29.8	31.5	32.2	30.9	30.9	32.7	29.5	30.5	31.7
Total World Demand	70.9	67.9	68.5	71.6	72.8	69.4	70.1	73.3	74.5	71.2	72.0	75.2	69.7	71.4	73.2
Supply ^c															
OECD															
U.S. (50 States)	9.4	9.4	9.3	9.4	9.2	9.1	9.1	9.2	9.1	9.0	9.0	9.0	9.4	9.2	9.0
Canada	2.4	2.4	2.4	2.5	2.5	2.5	2.5	2.5	2.6	2.6	2.6	2.6	2.4	2.5	2.6
North Sea ^d	5.8	5.4	5.7	6.3	6.5	6.3	6.3	6.7	6.7	6.5	6.4	6.7	5.8	6.4	6.5
Other OECD	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Total OECD	19.2	18.7	18.9	19.6	19.7	19.4	19.4	19.9	19.9	19.5	19.4	19.8	19.1	19.6	19.6
Non-OECD															
OPEC	27.6	28.0	28.2	28.2	28.2	28.3	28.5	28.6	28.9	29.0	29.3	29.5	28.0	28.4	29.2
Former Soviet Union	6.9	7.0	7.0	6.9	7.1	7.0	7.0	6.9	7.2	7.1	7.1	7.0	7.0	7.0	7.1
China	3.0	3.0	3.0	3.1	3.1	3.1	3.1	3.1	3.2	3.2	3.2	3.3	3.0	3.1	3.2
Mexico	3.1	3.2	3.2	2.9	3.3	3.3	3.4	3.4	3.4	3.5	3.5	3.6	3.1	3.4	3.5
Other Non-OECD	9.3	9.3	9.6	9.5	9.8	9.9	10.1	10.2	10.3	10.4	10.7	10.8	9.4	10.0	10.5
Total Non-OECD	49.9	50.5	51.0	50.6	51.5	51.6	52.0	52.2	52.9	53.1	53.7	54.1	50.5	51.8	53.4
Total World Supply	69.1	69.2	69.9	70.2	71.1	71.0	71.4	72.1	72.8	72.6	73.1	73.8	69.6	71.4	73.1
Stock Changes and Statistical Discrepancy															
Net Stock Withdrawals or Additions (-)															
U.S. (50 States including SPR)	0.6	-0.1	-0.1	0.6	0.5	-0.7	-0.3	0.3	0.4	-0.7	-0.3	0.3	0.3	-0.1	-0.1
Other	1.3	-1.2	-1.2	0.7	1.2	-0.9	-0.9	0.8	1.3	-0.7	-0.8	1.1	-0.1	0.0	0.2
Total Stock Withdrawals	1.9	-1.4	-1.3	1.4	1.7	-1.6	-1.3	1.2	1.7	-1.4	-1.1	1.4	0.1	0.0	0.1
Statistical Discrepancy	0.1	0.2	0.2	0.3	0.4	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.2	0.3	0.3
Closing Stocks (billion barrels) ^e	5.5	5.6	5.7	5.6	5.4	5.6	5.7	5.6	5.4	5.6	5.7	5.5	5.6	5.6	5.5
Non-OPEC Supply	41.5	41.2	41.7	42.0	42.9	42.7	42.9	43.5	43.9	43.6	43.9	44.3	41.6	43.0	43.9
Net Exports from Former Soviet Union	1.8	2.8	2.6	2.2	2.0	2.8	2.6	2.2	2.0	2.8	2.6	2.2	2.4	2.4	2.4

^aDemand for petroleum by the OECD countries is synonymous with "petroleum product supplied" which is defined in the glossary of the EIA *Petroleum Supply Monthly*, DOE/EIA-0109. Demand for petroleum by the non-OECD countries is "apparent consumption" which includes internal consumption, refinery fuel and loss, and bunkering.

^bOECD Europe includes the former East Germany.

^cIncludes production of crude oil (including lease condensates), natural gas plant liquids, other hydrogen and hydrocarbons for refinery feedstocks, refinery gains, alcohol, and liquids produced from coal and other sources.

^dIncludes offshore supply from Denmark, Germany, the Netherlands, Norway, and the United Kingdom.

^eExcludes stocks held in the Former CPEs.

OECD: Organization for Economic Cooperation and Development: Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Japan, Luxembourg, the Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, Turkey, the United Kingdom, and the United States. Mexico is also a member, but is not yet included in OECD data.

OPEC: Organization of Petroleum Exporting Countries: Algeria, Gabon, Indonesia, Iran, Iraq, Kuwait, Libya, Nigeria, Qatar, Saudi Arabia, the United Arab Emirates, and Venezuela.

SPR: Strategic Petroleum Reserve

Former Soviet Union: Armenia, Azerbaijan, Belarus, Estonia, Georgia, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Moldova, Russia, Tajikistan, Turkmenistan, Ukraine and Uzbekistan.

Notes: Minor discrepancies with other published EIA historical data are due to rounding. Historical data are printed in bold, forecasts are in italic. The forecasts were generated by simulation of the Short-Term Integrated Forecasting System.

Sources: Energy Information Administration, *International Petroleum Statistics Report*, DOE/EIA-0520(96/01); Organization for Economic Cooperation and Development, Annual and Monthly Oil Statistics Database, January 1996.

Table 4. U.S. Energy Prices
(Nominal Dollars)

	Price Case	1995				1996				1997				Year		
		1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1995	1996	1997
Imported Crude Oil ^a (dollars per barrel)	Low						14.31	13.00	13.00	13.00	13.00	13.00	13.00		14.49	13.00
	Mid	17.01	18.20	16.59	16.77	18.09	17.32	16.00	16.00	16.00	16.00	16.00	16.00	17.14	16.82	16.00
	High						18.66	18.00	18.00	18.00	18.00	18.00	18.00		18.19	18.00
Natural Gas Wellhead (dollars per thousand cubic feet)	Low						1.77	1.66	1.80	1.76	1.53	1.46	1.58		1.86	1.58
	Mid	1.53	1.59	1.46	1.82	2.27	2.00	1.90	2.05	2.03	1.82	1.80	1.96	1.60	2.05	1.90
	High						2.24	2.17	2.29	2.23	2.07	2.07	2.23		2.26	2.15
Petroleum Products																
Gasoline Retail ^b (dollars per gallon)	Low						1.19	1.16	1.14	1.14	1.19	1.19	1.16		1.17	1.17
	Mid	1.18	1.24	1.23	1.17	1.21	1.24	1.23	1.21	1.21	1.26	1.26	1.23	1.21	1.22	1.24
	High						1.27	1.27	1.25	1.25	1.30	1.30	1.27		1.25	1.28
No. 2 Diesel Oil, Retail (dollars per gallon)	Low						1.05	1.02	1.06	1.05	1.04	1.04	1.08		1.07	1.06
	Mid	1.09	1.11	1.10	1.12	1.15	1.11	1.08	1.13	1.12	1.11	1.11	1.15	1.11	1.12	1.12
	High						1.14	1.13	1.17	1.16	1.15	1.15	1.20		1.15	1.17
No. 2 Heating Oil, Wholesale (dollars per gallon)	Low						0.46	0.42	0.45	0.44	0.44	0.44	0.47		0.49	0.45
	Mid	0.49	0.51	0.50	0.55	0.58	0.53	0.48	0.52	0.51	0.51	0.51	0.53	0.51	0.53	0.51
	High						0.56	0.53	0.56	0.55	0.55	0.55	0.58		0.56	0.56
No. 2 Heating Oil, Retail (dollars per gallon)	Low						0.88	0.76	0.82	0.86	0.83	0.79	0.84		0.89	0.84
	Mid	0.88	0.86	0.82	0.89	0.97	0.93	0.83	0.89	0.92	0.90	0.85	0.91	0.87	0.93	0.91
	High						0.95	0.87	0.93	0.97	0.94	0.90	0.95		0.95	0.95
No. 6 Residual Fuel Oil, Retail ^c (dollars per barrel)	Low						13.56	12.29	12.78	13.22	11.63	11.53	12.39		14.27	12.24
	Mid	16.83	17.45	15.15	16.43	18.49	16.07	14.89	15.52	16.17	14.54	14.46	15.41	16.47	16.30	15.20
	High						17.04	16.33	16.95	17.42	15.79	15.70	16.67		17.24	16.45
Electric Utility Fuels																
Coal (dollars per million Btu)	Low						1.30	1.27	1.25	1.25	1.27	1.25	1.24		1.27	1.25
	Mid	1.33	1.34	1.31	1.28	1.29	1.31	1.29	1.28	1.28	1.30	1.28	1.27	1.32	1.29	1.28
	High						1.37	1.36	1.36	1.36	1.39	1.37	1.36		1.35	1.37
Heavy Fuel Oil ^d (dollars per million Btu)	Low						2.29	2.15	2.28	2.29	2.02	2.03	2.22		2.43	2.13
	Mid	2.61	2.74	2.42	2.87	3.13	2.70	2.57	2.73	2.76	2.47	2.50	2.71	2.63	2.77	2.60
	High						2.85	2.79	2.96	2.95	2.67	2.69	2.92		2.93	2.80
Natural Gas (dollars per million Btu)	Low						2.20	2.10	2.31	2.33	2.03	1.96	2.15		2.29	2.09
	Mid	1.98	2.00	1.84	2.26	2.74	2.42	2.32	2.54	2.58	2.30	2.26	2.49	1.99	2.48	2.39
	High						2.62	2.56	2.76	2.75	2.51	2.49	2.72		2.67	2.60
Other Residential																
Natural Gas (dollars per thousand cubic feet)	Low						6.85	7.80	6.16	5.82	6.45	7.60	6.01		6.40	6.11
	Mid	5.80	6.47	7.82	6.14	6.17	6.92	8.04	6.51	6.15	6.74	7.97	6.48	6.18	6.53	6.48
	High						7.02	8.21	6.63	6.43	7.02	8.16	6.61		6.58	6.71
Electricity (cents per kilowatthour)	Low						8.28	8.47	7.94	7.59	8.18	8.42	7.95		8.09	8.03
	Mid	7.99	8.58	8.73	8.27	7.90	8.56	8.78	8.32	7.99	8.58	8.82	8.36	8.40	8.39	8.44
	High						8.93	9.20	8.75	8.42	9.01	9.28	8.82		8.78	8.88

^aCost of imported crude oil to U.S.

^bAverage for all grades and services.

^cAverage for all sulfur contents.

^dIncludes fuel oils No. 4, No. 5, and No. 6 and topped crude fuel oil prices.

Notes: Data are estimated for the fourth quarter of 1995. Prices exclude taxes, except prices for gasoline, residential natural gas, and diesel. Price cases are derived by simulating all energy product price models under the assumptions of the three world oil price cases using the mid macroeconomic case and normal weather assumptions for all simulations. The forecasts were generated by simulation of the Short-Term Integrated Forecasting System.

Sources: Historical data: Energy Information Administration, *Monthly Energy Review*, DOE/EIA-0035(96/02); and *Petroleum Marketing Monthly*, DOE/EIA-0380(96/02).

Table 5. U.S. Petroleum Supply and Demand: Low World Oil Price Case
(Million Barrels per Day, Except Closing Stocks)

	1995				1996				1997				Year		
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1995	1996	1997
Supply															
Crude Oil Supply															
Domestic Production ^a	6.63	6.56	6.43	6.50	<i>6.43</i>	<i>6.24</i>	<i>6.10</i>	<i>6.08</i>	<i>6.04</i>	<i>5.95</i>	<i>5.81</i>	<i>5.75</i>	6.53	<i>6.21</i>	<i>5.89</i>
Alaska	1.56	1.50	1.40	1.48	<i>1.43</i>	<i>1.32</i>	<i>1.30</i>	<i>1.34</i>	<i>1.30</i>	<i>1.26</i>	<i>1.20</i>	<i>1.20</i>	1.49	<i>1.35</i>	<i>1.24</i>
Lower 48	5.07	5.05	5.03	5.02	<i>5.00</i>	<i>4.93</i>	<i>4.80</i>	<i>4.74</i>	<i>4.74</i>	<i>4.69</i>	<i>4.61</i>	<i>4.55</i>	5.04	<i>4.87</i>	<i>4.65</i>
Net Imports (including SPR) ^b	6.74	7.35	7.49	6.99	<i>6.93</i>	<i>8.00</i>	<i>8.19</i>	<i>7.83</i>	<i>7.98</i>	<i>8.73</i>	<i>8.89</i>	<i>8.54</i>	7.15	<i>7.74</i>	<i>8.54</i>
Other SPR Supply	0.00	0.00	0.00	0.00	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	0.00	<i>0.00</i>	<i>0.00</i>
SPR Stock Withdrawn or Added (-)	0.00	0.00	0.00	0.00	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	0.00	<i>0.00</i>	<i>0.00</i>
Other Stock Withdrawn or Added (-)	-0.01	0.12	0.24	0.03	<i>-0.07</i>	<i>-0.07</i>	<i>0.11</i>	<i>-0.04</i>	<i>-0.13</i>	<i>-0.07</i>	<i>0.10</i>	<i>-0.03</i>	0.10	<i>-0.02</i>	<i>-0.03</i>
Product Supplied and Losses	-0.01	-0.01	-0.01	-0.01	<i>-0.01</i>	<i>-0.01</i>	<i>-0.01</i>	<i>-0.01</i>	<i>-0.01</i>	<i>-0.01</i>	<i>-0.01</i>	<i>-0.01</i>	-0.01	<i>-0.01</i>	<i>-0.01</i>
Unaccounted-for Crude Oil	0.13	0.21	0.19	0.30	<i>0.38</i>	<i>0.27</i>	<i>0.28</i>	<i>0.27</i>	<i>0.27</i>	<i>0.28</i>	<i>0.29</i>	<i>0.28</i>	0.21	<i>0.30</i>	<i>0.28</i>
Total Crude Oil Supply	13.49	14.23	14.34	13.82	<i>13.67</i>	<i>14.44</i>	<i>14.67</i>	<i>14.13</i>	<i>14.15</i>	<i>14.88</i>	<i>15.07</i>	<i>14.52</i>	13.97	<i>14.23</i>	<i>14.66</i>
Other Supply															
NGL Production	1.77	1.77	1.75	1.75	<i>1.71</i>	<i>1.74</i>	<i>1.75</i>	<i>1.80</i>	<i>1.76</i>	<i>1.75</i>	<i>1.76</i>	<i>1.78</i>	1.76	<i>1.75</i>	<i>1.76</i>
Other Hydrocarbon and Alcohol Inputs	0.30	0.31	0.30	0.31	<i>0.31</i>	<i>0.31</i>	<i>0.32</i>	<i>0.34</i>	<i>0.32</i>	<i>0.33</i>	<i>0.34</i>	<i>0.35</i>	0.30	<i>0.32</i>	<i>0.34</i>
Crude Oil Product Supplied	0.01	0.01	0.01	0.01	<i>0.01</i>	<i>0.01</i>	<i>0.01</i>	<i>0.01</i>	<i>0.01</i>	<i>0.01</i>	<i>0.01</i>	<i>0.01</i>	0.01	<i>0.01</i>	<i>0.01</i>
Processing Gain	0.72	0.75	0.78	0.81	<i>0.77</i>	<i>0.80</i>	<i>0.82</i>	<i>0.79</i>	<i>0.78</i>	<i>0.83</i>	<i>0.84</i>	<i>0.81</i>	0.77	<i>0.80</i>	<i>0.82</i>
Net Product Imports ^c	0.71	0.65	0.86	0.72	<i>1.24</i>	<i>1.14</i>	<i>1.08</i>	<i>1.05</i>	<i>1.00</i>	<i>1.14</i>	<i>1.09</i>	<i>1.14</i>	0.74	<i>1.13</i>	<i>1.09</i>
Product Stock Withdrawn or Added (-) ^d	0.60	-0.22	-0.35	0.58	<i>0.52</i>	<i>-0.65</i>	<i>-0.47</i>	<i>0.40</i>	<i>0.50</i>	<i>-0.65</i>	<i>-0.43</i>	<i>0.38</i>	0.15	<i>-0.05</i>	<i>-0.05</i>
Total Supply	17.61	17.49	17.70	18.00	<i>18.23</i>	<i>17.79</i>	<i>18.19</i>	<i>18.51</i>	<i>18.52</i>	<i>18.29</i>	<i>18.67</i>	<i>19.00</i>	17.70	<i>18.18</i>	<i>18.62</i>
Demand															
Motor Gasoline	7.48	7.94	7.93	7.79	<i>7.64</i>	<i>8.09</i>	<i>8.16</i>	<i>8.01</i>	<i>7.82</i>	<i>8.29</i>	<i>8.34</i>	<i>8.19</i>	7.79	<i>7.98</i>	<i>8.16</i>
Jet Fuel	1.52	1.44	1.52	1.57	<i>1.64</i>	<i>1.50</i>	<i>1.51</i>	<i>1.54</i>	<i>1.55</i>	<i>1.51</i>	<i>1.57</i>	<i>1.61</i>	1.51	<i>1.55</i>	<i>1.56</i>
Distillate Fuel Oil	3.45	3.09	3.01	3.26	<i>3.64</i>	<i>3.17</i>	<i>3.13</i>	<i>3.39</i>	<i>3.64</i>	<i>3.28</i>	<i>3.24</i>	<i>3.48</i>	3.20	<i>3.33</i>	<i>3.41</i>
Residual Fuel Oil	0.89	0.82	0.81	0.88	<i>0.96</i>	<i>0.85</i>	<i>0.89</i>	<i>1.01</i>	<i>1.07</i>	<i>0.92</i>	<i>0.92</i>	<i>1.04</i>	0.85	<i>0.93</i>	<i>0.99</i>
Other Oils ^e	4.28	4.21	4.43	4.49	<i>4.35</i>	<i>4.18</i>	<i>4.49</i>	<i>4.56</i>	<i>4.43</i>	<i>4.29</i>	<i>4.61</i>	<i>4.68</i>	4.35	<i>4.40</i>	<i>4.50</i>
Total Demand	17.62	17.49	17.70	18.00	<i>18.23</i>	<i>17.79</i>	<i>18.19</i>	<i>18.51</i>	<i>18.52</i>	<i>18.29</i>	<i>18.67</i>	<i>19.00</i>	17.70	<i>18.18</i>	<i>18.62</i>
Total Petroleum Net Imports	7.45	8.00	8.35	7.72	<i>8.17</i>	<i>9.14</i>	<i>9.27</i>	<i>8.88</i>	<i>8.98</i>	<i>9.87</i>	<i>9.97</i>	<i>9.67</i>	7.88	<i>8.87</i>	<i>9.63</i>
Closing Stocks (million barrels)															
Crude Oil (excluding SPR) ^f	338	327	305	302	<i>308</i>	<i>314</i>	<i>304</i>	<i>308</i>	<i>320</i>	<i>326</i>	<i>317</i>	<i>320</i>	302	<i>308</i>	<i>320</i>
Total Motor Gasoline	211	205	199	202	<i>203</i>	<i>196</i>	<i>195</i>	<i>204</i>	<i>206</i>	<i>202</i>	<i>202</i>	<i>213</i>	202	<i>204</i>	<i>213</i>
Finished Motor Gasoline	168	164	159	161	<i>161</i>	<i>158</i>	<i>156</i>	<i>165</i>	<i>166</i>	<i>165</i>	<i>163</i>	<i>174</i>	161	<i>165</i>	<i>174</i>
Blending Components	43	41	40	41	<i>42</i>	<i>38</i>	<i>39</i>	<i>39</i>	<i>40</i>	<i>38</i>	<i>39</i>	<i>39</i>	41	<i>39</i>	<i>39</i>
Jet Fuel	39	40	41	40	<i>36</i>	<i>39</i>	<i>42</i>	<i>43</i>	<i>42</i>	<i>42</i>	<i>44</i>	<i>45</i>	40	<i>43</i>	<i>45</i>
Distillate Fuel Oil	115	115	132	130	<i>93</i>	<i>110</i>	<i>134</i>	<i>134</i>	<i>96</i>	<i>111</i>	<i>134</i>	<i>134</i>	130	<i>134</i>	<i>134</i>
Residual Fuel Oil	38	36	40	37	<i>34</i>	<i>37</i>	<i>40</i>	<i>42</i>	<i>39</i>	<i>42</i>	<i>42</i>	<i>42</i>	37	<i>42</i>	<i>42</i>
Other Oils ^g	266	294	310	259	<i>254</i>	<i>297</i>	<i>312</i>	<i>263</i>	<i>259</i>	<i>304</i>	<i>320</i>	<i>272</i>	259	<i>263</i>	<i>272</i>
Total Stocks (excluding SPR)	1007	1017	1026	970	<i>929</i>	<i>994</i>	<i>1027</i>	<i>995</i>	<i>962</i>	<i>1027</i>	<i>1058</i>	<i>1026</i>	970	<i>995</i>	<i>1026</i>
Crude Oil in SPR	592	592	592	592	<i>590</i>	<i>587</i>	<i>585</i>	<i>585</i>	<i>585</i>	<i>585</i>	<i>585</i>	<i>585</i>	592	<i>585</i>	<i>585</i>
Total Stocks (including SPR)	1599	1609	1618	1561	<i>1519</i>	<i>1581</i>	<i>1612</i>	<i>1579</i>	<i>1547</i>	<i>1612</i>	<i>1642</i>	<i>1610</i>	1561	<i>1579</i>	<i>1610</i>

^aIncludes lease condensate.

^bNet imports equals gross imports plus SPR imports minus exports.

^cIncludes finished petroleum products, unfinished oils, gasoline blending components, and natural gas plant liquids for processing.

^dIncludes an estimate of minor product stock change based on monthly data.

^eIncludes crude oil product supplied, natural gas liquids, liquefied refinery gas, other liquids, and all finished petroleum products except motor gasoline, jet fuel, distillate, and residual fuel oil.

^fIncludes crude oil in transit to refineries.

^gIncludes stocks of all other oils such as aviation gasoline, kerosene, natural gas liquids (including ethane), aviation gasoline blending components, naphtha and other oils for petrochemical feedstock use, special naphthas, lube oils, wax, coke, asphalt, road oil, and miscellaneous oils.

SPR: Strategic Petroleum Reserve

NGL: Natural Gas Liquids

Notes: Minor discrepancies with other EIA published historical data are due to rounding. Historical data are printed in bold, forecasts are in italic. The forecasts were generated by simulation of the Short-Term Integrated Forecasting System.

Sources: Historical data: Energy Information Administration, *Petroleum Supply Monthly*, DOE/EIA-0109(93/01-96/02); and *Weekly Petroleum Status Report*, DOE/EIA-0208(various issues).

Table 6. U.S. Petroleum Supply and Demand: Mid World Oil Price Case
(Million Barrels per Day, Except Closing Stocks)

	1995				1996				1997				Year		
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1995	1996	1997
Supply															
Crude Oil Supply															
Domestic Production ^a	6.63	6.56	6.43	6.50	<i>6.43</i>	<i>6.29</i>	<i>6.23</i>	<i>6.27</i>	<i>6.23</i>	<i>6.14</i>	<i>6.03</i>	<i>6.02</i>	6.53	<i>6.30</i>	<i>6.10</i>
Alaska	1.56	1.50	1.40	1.48	<i>1.43</i>	<i>1.33</i>	<i>1.32</i>	<i>1.35</i>	<i>1.33</i>	<i>1.28</i>	<i>1.23</i>	<i>1.23</i>	1.49	<i>1.36</i>	<i>1.27</i>
Lower 48	5.07	5.05	5.03	5.02	<i>5.00</i>	<i>4.96</i>	<i>4.91</i>	<i>4.91</i>	<i>4.90</i>	<i>4.85</i>	<i>4.80</i>	<i>4.79</i>	5.04	<i>4.94</i>	<i>4.83</i>
Net Imports (including SPR) ^b	6.74	7.35	7.49	6.99	<i>6.93</i>	<i>7.93</i>	<i>8.01</i>	<i>7.57</i>	<i>7.72</i>	<i>8.48</i>	<i>8.61</i>	<i>8.16</i>	7.15	<i>7.61</i>	<i>8.24</i>
Other SPR Supply	0.00	0.00	0.00	0.00	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	0.00	<i>0.00</i>	<i>0.00</i>
SPR Stock Withdrawn or Added (-)	0.00	0.00	0.00	0.00	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	0.00	<i>0.00</i>	<i>0.00</i>
Other Stock Withdrawn or Added (-)	-0.01	0.12	0.24	0.03	<i>-0.07</i>	<i>-0.07</i>	<i>0.11</i>	<i>-0.04</i>	<i>-0.13</i>	<i>-0.07</i>	<i>0.10</i>	<i>-0.03</i>	0.10	<i>-0.02</i>	<i>-0.03</i>
Product Supplied and Losses	-0.01	-0.01	-0.01	-0.01	<i>-0.01</i>	<i>-0.01</i>	<i>-0.01</i>	<i>-0.01</i>	<i>-0.01</i>	<i>-0.01</i>	<i>-0.01</i>	<i>-0.01</i>	-0.01	<i>-0.01</i>	<i>-0.01</i>
Unaccounted-for Crude Oil	0.13	0.21	0.19	0.30	<i>0.38</i>	<i>0.27</i>	<i>0.28</i>	<i>0.27</i>	<i>0.27</i>	<i>0.28</i>	<i>0.29</i>	<i>0.27</i>	0.21	<i>0.30</i>	<i>0.28</i>
Total Crude Oil Supply	13.49	14.23	14.34	13.82	<i>13.67</i>	<i>14.42</i>	<i>14.61</i>	<i>14.05</i>	<i>14.07</i>	<i>14.82</i>	<i>15.01</i>	<i>14.41</i>	13.97	<i>14.19</i>	<i>14.58</i>
Other Supply															
NGL Production	1.77	1.77	1.75	1.75	<i>1.71</i>	<i>1.74</i>	<i>1.76</i>	<i>1.80</i>	<i>1.76</i>	<i>1.75</i>	<i>1.76</i>	<i>1.79</i>	1.76	<i>1.75</i>	<i>1.76</i>
Other Hydrocarbon and Alcohol Inputs	0.30	0.31	0.30	0.31	<i>0.31</i>	<i>0.31</i>	<i>0.32</i>	<i>0.34</i>	<i>0.32</i>	<i>0.33</i>	<i>0.34</i>	<i>0.35</i>	0.30	<i>0.32</i>	<i>0.34</i>
Crude Oil Product Supplied	0.01	0.01	0.01	0.01	<i>0.01</i>	<i>0.01</i>	<i>0.01</i>	<i>0.01</i>	<i>0.01</i>	<i>0.01</i>	<i>0.01</i>	<i>0.01</i>	0.01	<i>0.01</i>	<i>0.01</i>
Processing Gain	0.72	0.75	0.78	0.81	<i>0.77</i>	<i>0.80</i>	<i>0.82</i>	<i>0.79</i>	<i>0.78</i>	<i>0.82</i>	<i>0.84</i>	<i>0.81</i>	0.77	<i>0.79</i>	<i>0.81</i>
Net Product Imports ^c	0.71	0.65	0.86	0.72	<i>1.24</i>	<i>1.09</i>	<i>1.02</i>	<i>0.99</i>	<i>0.93</i>	<i>1.04</i>	<i>0.97</i>	<i>1.06</i>	0.74	<i>1.09</i>	<i>1.00</i>
Product Stock Withdrawn or Added (-) ^d	0.60	-0.22	-0.35	0.58	<i>0.52</i>	<i>-0.66</i>	<i>-0.47</i>	<i>0.39</i>	<i>0.50</i>	<i>-0.65</i>	<i>-0.43</i>	<i>0.38</i>	0.15	<i>-0.05</i>	<i>-0.05</i>
Total Supply	17.61	17.49	17.70	18.00	<i>18.23</i>	<i>17.72</i>	<i>18.06</i>	<i>18.38</i>	<i>18.38</i>	<i>18.13</i>	<i>18.48</i>	<i>18.80</i>	17.70	<i>18.10</i>	<i>18.45</i>
Demand															
Motor Gasoline	7.48	7.94	7.93	7.79	<i>7.64</i>	<i>8.07</i>	<i>8.13</i>	<i>7.98</i>	<i>7.78</i>	<i>8.25</i>	<i>8.30</i>	<i>8.15</i>	7.79	<i>7.95</i>	<i>8.12</i>
Jet Fuel	1.52	1.44	1.52	1.57	<i>1.64</i>	<i>1.50</i>	<i>1.51</i>	<i>1.54</i>	<i>1.55</i>	<i>1.51</i>	<i>1.57</i>	<i>1.61</i>	1.51	<i>1.55</i>	<i>1.56</i>
Distillate Fuel Oil	3.45	3.09	3.01	3.26	<i>3.64</i>	<i>3.16</i>	<i>3.11</i>	<i>3.36</i>	<i>3.61</i>	<i>3.24</i>	<i>3.20</i>	<i>3.44</i>	3.20	<i>3.32</i>	<i>3.37</i>
Residual Fuel Oil	0.89	0.82	0.81	0.88	<i>0.96</i>	<i>0.82</i>	<i>0.82</i>	<i>0.95</i>	<i>1.02</i>	<i>0.85</i>	<i>0.83</i>	<i>0.96</i>	0.85	<i>0.89</i>	<i>0.91</i>
Other Oils ^e	4.28	4.21	4.43	4.49	<i>4.35</i>	<i>4.18</i>	<i>4.48</i>	<i>4.55</i>	<i>4.42</i>	<i>4.28</i>	<i>4.60</i>	<i>4.65</i>	4.35	<i>4.39</i>	<i>4.49</i>
Total Demand	17.62	17.49	17.70	18.00	<i>18.23</i>	<i>17.72</i>	<i>18.06</i>	<i>18.38</i>	<i>18.38</i>	<i>18.13</i>	<i>18.48</i>	<i>18.80</i>	17.70	<i>18.10</i>	<i>18.45</i>
Total Petroleum Net Imports	7.45	8.00	8.35	7.72	<i>8.17</i>	<i>9.03</i>	<i>9.02</i>	<i>8.57</i>	<i>8.65</i>	<i>9.52</i>	<i>9.57</i>	<i>9.21</i>	7.88	<i>8.70</i>	<i>9.24</i>
Closing Stocks (million barrels)															
Crude Oil (excluding SPR) ^f	338	327	305	302	<i>308</i>	<i>314</i>	<i>304</i>	<i>308</i>	<i>320</i>	<i>326</i>	<i>317</i>	<i>320</i>	302	<i>308</i>	<i>320</i>
Total Motor Gasoline	211	205	199	202	<i>203</i>	<i>196</i>	<i>195</i>	<i>204</i>	<i>206</i>	<i>202</i>	<i>202</i>	<i>213</i>	202	<i>204</i>	<i>213</i>
Finished Motor Gasoline	168	164	159	161	<i>161</i>	<i>158</i>	<i>156</i>	<i>165</i>	<i>166</i>	<i>165</i>	<i>163</i>	<i>174</i>	161	<i>165</i>	<i>174</i>
Blending Components	43	41	40	41	<i>42</i>	<i>38</i>	<i>39</i>	<i>39</i>	<i>40</i>	<i>38</i>	<i>39</i>	<i>39</i>	41	<i>39</i>	<i>39</i>
Jet Fuel	39	40	41	40	<i>36</i>	<i>39</i>	<i>42</i>	<i>43</i>	<i>42</i>	<i>42</i>	<i>44</i>	<i>45</i>	40	<i>43</i>	<i>45</i>
Distillate Fuel Oil	115	115	132	130	<i>93</i>	<i>110</i>	<i>134</i>	<i>135</i>	<i>97</i>	<i>112</i>	<i>134</i>	<i>135</i>	130	<i>135</i>	<i>135</i>
Residual Fuel Oil	38	36	40	37	<i>34</i>	<i>37</i>	<i>40</i>	<i>42</i>	<i>39</i>	<i>42</i>	<i>42</i>	<i>42</i>	37	<i>42</i>	<i>42</i>
Other Oils ^g	266	294	310	259	<i>254</i>	<i>297</i>	<i>312</i>	<i>264</i>	<i>260</i>	<i>305</i>	<i>320</i>	<i>273</i>	259	<i>264</i>	<i>273</i>
Total Stocks (excluding SPR)	1007	1017	1026	970	<i>929</i>	<i>994</i>	<i>1028</i>	<i>996</i>	<i>963</i>	<i>1029</i>	<i>1059</i>	<i>1028</i>	970	<i>996</i>	<i>1028</i>
Crude Oil in SPR	592	592	592	592	<i>590</i>	<i>587</i>	<i>585</i>	<i>585</i>	<i>585</i>	<i>585</i>	<i>585</i>	<i>585</i>	592	<i>585</i>	<i>585</i>
Total Stocks (including SPR)	1599	1609	1618	1561	<i>1519</i>	<i>1582</i>	<i>1613</i>	<i>1581</i>	<i>1548</i>	<i>1613</i>	<i>1644</i>	<i>1612</i>	1561	<i>1581</i>	<i>1612</i>

^aIncludes lease condensate.

^bNet imports equals gross imports plus SPR imports minus exports.

^cIncludes finished petroleum products, unfinished oils, gasoline blending components, and natural gas plant liquids for processing.

^dIncludes an estimate of minor product stock change based on monthly data.

^eIncludes crude oil product supplied, natural gas liquids, liquefied refinery gas, other liquids, and all finished petroleum products except motor gasoline, jet fuel, distillate, and residual fuel oil.

^fIncludes crude oil in transit to refineries.

^gIncludes stocks of all other oils such as aviation gasoline, kerosene, natural gas liquids (including ethane), aviation gasoline blending components, naphtha and other oils for petrochemical feedstock use, special naphthas, lube oils, wax, coke, asphalt, road oil, and miscellaneous oils.

SPR: Strategic Petroleum Reserve

NGL: Natural Gas Liquids

Notes: Minor discrepancies with other EIA published historical data are due to rounding. Historical data are printed in bold, forecasts are in italic. The forecasts were generated by simulation of the Short-Term Integrated Forecasting System.

Sources: Historical data: Energy Information Administration, *Petroleum Supply Monthly*, DOE/EIA-0109(93/01-96/02); and *Weekly Petroleum Status Report*, DOE/EIA-0208(various issues).

Table 7. U.S. Petroleum Supply and Demand: High World Oil Price Case
(Million Barrels per Day, Except Closing Stocks)

	1995				1996				1997				Year		
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1995	1996	1997
Supply															
Crude Oil Supply															
Domestic Production ^a	6.63	6.56	6.43	6.50	<i>6.43</i>	<i>6.34</i>	<i>6.30</i>	<i>6.37</i>	<i>6.35</i>	<i>6.27</i>	<i>6.21</i>	<i>6.20</i>	6.53	<i>6.36</i>	<i>6.26</i>
Alaska	1.56	1.50	1.40	1.48	<i>1.43</i>	<i>1.36</i>	<i>1.35</i>	<i>1.38</i>	<i>1.36</i>	<i>1.31</i>	<i>1.25</i>	<i>1.25</i>	1.49	<i>1.38</i>	<i>1.29</i>
Lower 48	5.07	5.05	5.03	5.02	<i>5.00</i>	<i>4.97</i>	<i>4.95</i>	<i>4.99</i>	<i>4.99</i>	<i>4.96</i>	<i>4.95</i>	<i>4.95</i>	5.04	<i>4.98</i>	<i>4.96</i>
Net Imports (including SPR) ^b	6.74	7.35	7.49	6.99	<i>6.93</i>	<i>7.87</i>	<i>7.90</i>	<i>7.42</i>	<i>7.55</i>	<i>8.29</i>	<i>8.37</i>	<i>7.91</i>	7.15	<i>7.53</i>	<i>8.03</i>
Other SPR Supply	0.00	0.00	0.00	0.00	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	0.00	<i>0.00</i>	<i>0.00</i>
SPR Stock Withdrawn or Added (-)	0.00	0.00	0.00	0.00	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	0.00	<i>0.00</i>	<i>0.00</i>
Other Stock Withdrawn or Added (-)	-0.01	0.12	0.24	0.03	<i>-0.07</i>	<i>-0.07</i>	<i>0.11</i>	<i>-0.04</i>	<i>-0.13</i>	<i>-0.07</i>	<i>0.10</i>	<i>-0.03</i>	0.10	<i>-0.02</i>	<i>-0.03</i>
Product Supplied and Losses	-0.01	-0.01	-0.01	-0.01	<i>-0.01</i>	<i>-0.01</i>	<i>-0.01</i>	<i>-0.01</i>	<i>-0.01</i>	<i>-0.01</i>	<i>-0.01</i>	<i>-0.01</i>	-0.01	<i>-0.01</i>	<i>-0.01</i>
Unaccounted-for Crude Oil	0.13	0.21	0.19	0.30	<i>0.38</i>	<i>0.27</i>	<i>0.28</i>	<i>0.27</i>	<i>0.27</i>	<i>0.28</i>	<i>0.28</i>	<i>0.27</i>	0.21	<i>0.30</i>	<i>0.28</i>
Total Crude Oil Supply	13.49	14.23	14.34	13.82	<i>13.67</i>	<i>14.41</i>	<i>14.57</i>	<i>14.00</i>	<i>14.01</i>	<i>14.77</i>	<i>14.94</i>	<i>14.34</i>	13.97	<i>14.17</i>	<i>14.52</i>
Other Supply															
NGL Production	1.77	1.77	1.75	1.75	<i>1.71</i>	<i>1.74</i>	<i>1.76</i>	<i>1.80</i>	<i>1.76</i>	<i>1.75</i>	<i>1.76</i>	<i>1.79</i>	1.76	<i>1.75</i>	<i>1.77</i>
Other Hydrocarbon and Alcohol Inputs	0.30	0.31	0.30	0.31	<i>0.31</i>	<i>0.31</i>	<i>0.32</i>	<i>0.34</i>	<i>0.32</i>	<i>0.33</i>	<i>0.34</i>	<i>0.35</i>	0.30	<i>0.32</i>	<i>0.34</i>
Crude Oil Product Supplied	0.01	0.01	0.01	0.01	<i>0.01</i>	<i>0.01</i>	<i>0.01</i>	<i>0.01</i>	<i>0.01</i>	<i>0.01</i>	<i>0.01</i>	<i>0.01</i>	0.01	<i>0.01</i>	<i>0.01</i>
Processing Gain	0.72	0.75	0.78	0.81	<i>0.77</i>	<i>0.80</i>	<i>0.81</i>	<i>0.78</i>	<i>0.78</i>	<i>0.82</i>	<i>0.83</i>	<i>0.80</i>	0.77	<i>0.79</i>	<i>0.81</i>
Net Product Imports ^c	0.71	0.65	0.86	0.72	<i>1.24</i>	<i>1.07</i>	<i>0.97</i>	<i>0.95</i>	<i>0.89</i>	<i>0.98</i>	<i>0.90</i>	<i>1.01</i>	0.74	<i>1.06</i>	<i>0.94</i>
Product Stock Withdrawn or Added (-) ^d	0.60	-0.22	-0.35	0.58	<i>0.52</i>	<i>-0.66</i>	<i>-0.48</i>	<i>0.39</i>	<i>0.50</i>	<i>-0.66</i>	<i>-0.43</i>	<i>0.37</i>	0.15	<i>-0.06</i>	<i>-0.06</i>
Total Supply	17.61	17.49	17.70	18.00	<i>18.23</i>	<i>17.68</i>	<i>17.97</i>	<i>18.28</i>	<i>18.27</i>	<i>18.01</i>	<i>18.35</i>	<i>18.68</i>	17.70	<i>18.04</i>	<i>18.33</i>
Demand															
Motor Gasoline	7.48	7.94	7.93	7.79	<i>7.64</i>	<i>8.05</i>	<i>8.10</i>	<i>7.95</i>	<i>7.76</i>	<i>8.22</i>	<i>8.27</i>	<i>8.12</i>	7.79	<i>7.94</i>	<i>8.09</i>
Jet Fuel	1.52	1.44	1.52	1.57	<i>1.64</i>	<i>1.50</i>	<i>1.51</i>	<i>1.54</i>	<i>1.55</i>	<i>1.51</i>	<i>1.56</i>	<i>1.60</i>	1.51	<i>1.55</i>	<i>1.56</i>
Distillate Fuel Oil	3.45	3.09	3.01	3.26	<i>3.64</i>	<i>3.15</i>	<i>3.10</i>	<i>3.34</i>	<i>3.59</i>	<i>3.22</i>	<i>3.17</i>	<i>3.41</i>	3.20	<i>3.31</i>	<i>3.35</i>
Residual Fuel Oil	0.89	0.82	0.81	0.88	<i>0.96</i>	<i>0.80</i>	<i>0.79</i>	<i>0.92</i>	<i>0.98</i>	<i>0.81</i>	<i>0.77</i>	<i>0.92</i>	0.85	<i>0.87</i>	<i>0.87</i>
Other Oils ^e	4.28	4.21	4.43	4.49	<i>4.34</i>	<i>4.17</i>	<i>4.48</i>	<i>4.54</i>	<i>4.40</i>	<i>4.27</i>	<i>4.58</i>	<i>4.63</i>	4.35	<i>4.38</i>	<i>4.47</i>
Total Demand	17.62	17.49	17.70	18.00	<i>18.23</i>	<i>17.68</i>	<i>17.97</i>	<i>18.28</i>	<i>18.27</i>	<i>18.01</i>	<i>18.35</i>	<i>18.68</i>	17.70	<i>18.04</i>	<i>18.33</i>
Total Petroleum Net Imports	7.45	8.00	8.35	7.72	<i>8.17</i>	<i>8.94</i>	<i>8.87</i>	<i>8.38</i>	<i>8.44</i>	<i>9.28</i>	<i>9.27</i>	<i>8.92</i>	7.88	<i>8.59</i>	<i>8.98</i>
Closing Stocks (million barrels)															
Crude Oil (excluding SPR) ^f	338	327	305	302	<i>308</i>	<i>314</i>	<i>304</i>	<i>308</i>	<i>320</i>	<i>326</i>	<i>317</i>	<i>320</i>	302	<i>308</i>	<i>320</i>
Total Motor Gasoline	211	205	199	202	<i>203</i>	<i>196</i>	<i>195</i>	<i>204</i>	<i>206</i>	<i>202</i>	<i>202</i>	<i>213</i>	202	<i>204</i>	<i>213</i>
Finished Motor Gasoline	168	164	159	161	<i>161</i>	<i>158</i>	<i>156</i>	<i>165</i>	<i>166</i>	<i>165</i>	<i>163</i>	<i>174</i>	161	<i>165</i>	<i>174</i>
Blending Components	43	41	40	41	<i>42</i>	<i>38</i>	<i>39</i>	<i>39</i>	<i>40</i>	<i>38</i>	<i>39</i>	<i>39</i>	41	<i>39</i>	<i>39</i>
Jet Fuel	39	40	41	40	<i>36</i>	<i>39</i>	<i>42</i>	<i>43</i>	<i>42</i>	<i>42</i>	<i>44</i>	<i>45</i>	40	<i>43</i>	<i>45</i>
Distillate Fuel Oil	115	115	132	130	<i>93</i>	<i>110</i>	<i>134</i>	<i>135</i>	<i>97</i>	<i>112</i>	<i>135</i>	<i>136</i>	130	<i>135</i>	<i>136</i>
Residual Fuel Oil	38	36	40	37	<i>34</i>	<i>37</i>	<i>40</i>	<i>42</i>	<i>39</i>	<i>42</i>	<i>42</i>	<i>42</i>	37	<i>42</i>	<i>42</i>
Other Oils ^g	266	294	310	259	<i>254</i>	<i>297</i>	<i>313</i>	<i>264</i>	<i>260</i>	<i>306</i>	<i>321</i>	<i>274</i>	259	<i>264</i>	<i>274</i>
Total Stocks (excluding SPR)	1007	1017	1026	970	<i>928</i>	<i>994</i>	<i>1028</i>	<i>997</i>	<i>964</i>	<i>1029</i>	<i>1060</i>	<i>1029</i>	970	<i>997</i>	<i>1029</i>
Crude Oil in SPR	592	592	592	592	<i>590</i>	<i>587</i>	<i>585</i>	<i>585</i>	<i>585</i>	<i>585</i>	<i>585</i>	<i>585</i>	592	<i>585</i>	<i>585</i>
Total Stocks (including SPR)	1599	1609	1618	1561	<i>1519</i>	<i>1582</i>	<i>1613</i>	<i>1581</i>	<i>1548</i>	<i>1614</i>	<i>1645</i>	<i>1614</i>	1561	<i>1581</i>	<i>1614</i>

^aIncludes lease condensate.

^bNet imports equals gross imports plus SPR imports minus exports.

^cIncludes finished petroleum products, unfinished oils, gasoline blending components, and natural gas plant liquids for processing.

^dIncludes an estimate of minor product stock change based on monthly data.

^eIncludes crude oil product supplied, natural gas liquids, liquefied refinery gas, other liquids, and all finished petroleum products except motor gasoline, jet fuel, distillate, and residual fuel oil.

^fIncludes crude oil in transit to refineries.

^gIncludes stocks of all other oils such as aviation gasoline, kerosene, natural gas liquids (including ethane), aviation gasoline blending components, naphtha and other oils for petrochemical feedstock use, special naphthas, lube oils, wax, coke, asphalt, road oil, and miscellaneous oils.

SPR: Strategic Petroleum Reserve

NGL: Natural Gas Liquids

Notes: Minor discrepancies with other EIA published historical data are due to rounding. Historical data are printed in bold, forecasts are in italic. The forecasts were generated by simulation of the Short-Term Integrated Forecasting System.

Sources: Historical data: Energy Information Administration, *Petroleum Supply Monthly*, DOE/EIA-0109(93/01-96/02); and *Weekly Petroleum Status Report*, DOE/EIA-0208(various issues).

Table 8. U.S. Petroleum Demand Sensitivities

	1996	1997
	Three Quarters ^a	Four Quarters ^a
Economic Activity		
Gross Domestic Product (billion 1987 dollars)	6,811 - 6,923	6,857 - 7,146
Resulting Change in Petroleum Demand (million barrels per day) ^b	0.17	0.50
Energy Prices		
Imported Crude Oil (nominal dollars per barrel) ^c	\$13.43 - \$18.22	\$13.00 - \$18.00
Resulting Change in Petroleum Demand (million barrels per day) ^b		
Due to Changes in the Crude Oil Price	-0.19	-0.30
Weather		
Heating Degree-Days (average per day) ^d	16.39 - 21.58	20.28 - 24.00
Resulting Change in Petroleum Demand (million barrels per day)	0.38	0.54
Cooling Degree-Days (average per day) ^d	5.57 - 6.58	5.57 - 6.58
Resulting Change in Petroleum Demand (million barrels per day) ^b	0.06	0.15

^aIn the weather case, calculations apply to certain quarters only, as follows: for heating degree-days in 1996 the fourth quarter is used; for 1997 the average of first and fourth quarters are used; for cooling degree-days in 1996 the average of the second and third quarters is used; for 1997 the average of the second and third quarters is used.

^bRanges of petroleum product supplied associated with varying each determinant (or determinants), holding other things equal.

^cCost of imported crude oil to U.S. refiners.

^dHeating and cooling degree-days are U.S. 1990 population-weighted.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy Markets and Contingency Information Division, Short-Term Integrated Forecasting System.

Table 9. Forecast Components for U.S. Crude Oil Production
(Million Barrels per Day)

	High Price Case	Low Price Case	Difference		
			Total	Uncertainty	Price Impact
United States	6.20	5.75	0.45	0.16	0.29
Lower 48 States	4.95	4.55	0.40	0.14	0.26
Alaska	1.25	1.20	0.05	0.03	0.03

Note: Components provided are for the fourth quarter 1997; totals are from Tables 5 and 7. Totals may not add to sum of components due to independent rounding.

Source: Energy Information Administration, Office of Oil and Gas, Reserves and Natural Gas Division.

Table 10. U.S. Natural Gas Supply and Demand: Mid World Oil Price Case
(Trillion Cubic Feet)

	1995				1996				1997				Year		
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1995	1996	1997
Supply															
Total Dry Gas Production ^a	4.69	4.73	4.60	4.58	<i>4.82</i>	<i>4.85</i>	<i>4.82</i>	<i>4.96</i>	<i>5.07</i>	<i>4.94</i>	<i>4.96</i>	<i>4.97</i>	18.60	<i>19.44</i>	<i>19.93</i>
Net Imports	0.69	0.59	0.64	0.62	<i>0.69</i>	<i>0.66</i>	<i>0.67</i>	<i>0.73</i>	<i>0.70</i>	<i>0.67</i>	<i>0.68</i>	<i>0.74</i>	2.54	<i>2.74</i>	<i>2.78</i>
Supplemental Gaseous Fuels	0.04	0.03	0.03	0.04	<i>0.04</i>	<i>0.03</i>	<i>0.03</i>	<i>0.03</i>	<i>0.03</i>	<i>0.03</i>	<i>0.02</i>	<i>0.03</i>	0.13	<i>0.12</i>	<i>0.12</i>
Total New Supply	5.42	5.34	5.27	5.23	<i>5.54</i>	<i>5.53</i>	<i>5.51</i>	<i>5.71</i>	<i>5.80</i>	<i>5.64</i>	<i>5.66</i>	<i>5.73</i>	21.26	<i>22.30</i>	<i>22.83</i>
Underground Working Gas Storage															
Opening	6.97	5.68	6.40	7.11	<i>6.38</i>	<i>5.14</i>	<i>5.94</i>	<i>6.85</i>	<i>6.52</i>	<i>5.42</i>	<i>6.11</i>	<i>6.93</i>	6.97	<i>6.38</i>	<i>6.52</i>
Closing	5.68	6.40	7.11	6.38	<i>5.14</i>	<i>5.94</i>	<i>6.85</i>	<i>6.52</i>	<i>5.42</i>	<i>6.11</i>	<i>6.93</i>	<i>6.61</i>	6.38	<i>6.52</i>	<i>6.61</i>
Net Withdrawals	1.29	-0.72	-0.71	0.74	<i>1.24</i>	<i>-0.80</i>	<i>-0.91</i>	<i>0.33</i>	<i>1.10</i>	<i>-0.69</i>	<i>-0.82</i>	<i>0.32</i>	0.59	<i>-0.14</i>	<i>-0.09</i>
Total Supply ^a	6.71	4.62	4.56	5.97	<i>6.78</i>	<i>4.73</i>	<i>4.60</i>	<i>6.05</i>	<i>6.89</i>	<i>4.95</i>	<i>4.84</i>	<i>6.06</i>	21.85	<i>22.16</i>	<i>22.74</i>
Balancing Item ^b	0.03	0.16	-0.11	-0.35	<i>0.34</i>	<i>0.03</i>	<i>-0.22</i>	<i>-0.37</i>	<i>0.39</i>	<i>-0.03</i>	<i>-0.33</i>	<i>-0.24</i>	-0.28	<i>-0.21</i>	<i>-0.21</i>
Total Primary Supply ^a	6.73	4.78	4.45	5.62	<i>7.12</i>	<i>4.76</i>	<i>4.38</i>	<i>5.68</i>	<i>7.28</i>	<i>4.91</i>	<i>4.51</i>	<i>5.82</i>	21.58	<i>21.94</i>	<i>22.53</i>
Demand															
Lease and Plant Fuel	0.31	0.31	0.30	0.31	<i>0.31</i>	<i>0.31</i>	<i>0.31</i>	<i>0.31</i>	<i>0.32</i>	<i>0.31</i>	<i>0.31</i>	<i>0.32</i>	1.23	<i>1.23</i>	<i>1.26</i>
Pipeline Use	0.22	0.16	0.15	0.19	<i>0.22</i>	<i>0.16</i>	<i>0.15</i>	<i>0.20</i>	<i>0.22</i>	<i>0.17</i>	<i>0.16</i>	<i>0.20</i>	0.72	<i>0.72</i>	<i>0.75</i>
Residential	2.17	0.84	0.38	1.45	<i>2.39</i>	<i>0.85</i>	<i>0.37</i>	<i>1.39</i>	<i>2.43</i>	<i>0.86</i>	<i>0.38</i>	<i>1.41</i>	4.84	<i>5.01</i>	<i>5.08</i>
Commercial	1.19	0.58	0.42	0.87	<i>1.30</i>	<i>0.60</i>	<i>0.42</i>	<i>0.84</i>	<i>1.32</i>	<i>0.61</i>	<i>0.43</i>	<i>0.85</i>	3.06	<i>3.15</i>	<i>3.21</i>
Industrial (Incl. Cogenerators)	2.19	2.06	1.96	2.14	<i>2.20</i>	<i>2.03</i>	<i>1.95</i>	<i>2.15</i>	<i>2.27</i>	<i>2.10</i>	<i>2.03</i>	<i>2.22</i>	8.35	<i>8.33</i>	<i>8.62</i>
Cogenerators ^c	0.49	0.54	0.52	0.50	<i>0.52</i>	<i>0.57</i>	<i>0.55</i>	<i>0.53</i>	<i>0.54</i>	<i>0.60</i>	<i>0.58</i>	<i>0.55</i>	2.06	<i>2.16</i>	<i>2.26</i>
Electricity Production															
Electric Utilities	0.61	0.78	1.19	0.61	<i>0.66</i>	<i>0.77</i>	<i>1.12</i>	<i>0.74</i>	<i>0.67</i>	<i>0.81</i>	<i>1.15</i>	<i>0.77</i>	3.19	<i>3.29</i>	<i>3.40</i>
Nonutilities (Excl. Cogen.)	0.05	0.05	0.05	0.05	<i>0.05</i>	<i>0.05</i>	<i>0.05</i>	<i>0.05</i>	<i>0.05</i>	<i>0.06</i>	<i>0.05</i>	<i>0.05</i>	0.19	<i>0.20</i>	<i>0.21</i>
Total Demand	6.73	4.78	4.45	5.62	<i>7.12</i>	<i>4.76</i>	<i>4.38</i>	<i>5.68</i>	<i>7.28</i>	<i>4.91</i>	<i>4.51</i>	<i>5.82</i>	21.58	<i>21.94</i>	<i>22.53</i>

^aExcludes nonhydrocarbon gases removed.

^bThe balancing item represents the difference between the sum of the components of natural gas supply and the sum of components of natural gas demand.

^cQuarterly estimates and projections for gas consumption by nonutility generators are based on estimates for quarterly gas-fired generation at nonutilities, supplied by the Office of Coal, Nuclear, Electric and Alternate Fuels (CNEAF), Energy Information Administration (EIA), based on annual data reported to EIA on Form EIA-867. Annual projections for nonutility gas consumption, as well as the detail on independent power producers' share of gas consumption, are provided by CNEAF.

Notes: Minor discrepancies with other EIA published historical data are due to rounding. Historical data are printed in bold, forecasts are in italic. The forecasts were generated by simulation of the Short-Term Integrated Forecasting System.

Sources: Historical data: Energy Information Administration, *Monthly Energy Review*, DOE/EIA-0035(96/02); *Natural Gas Monthly*, DOE/EIA-0130(96/02); *Electric Power Monthly*, DOE/EIA-0226(96/01); Projections: Energy Information Administration, Short-Term Integrated Forecasting System database, and Office of Oil and Gas, Reserves and Natural Gas Division.

Table 11. U.S. Coal Supply and Demand: Mid World Oil Price Case
(Million Short Tons)

	1995				1996				1997				Year		
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1995	1996	1997
Supply															
Production	265.3	248.5	256.4	<i>262.1</i>	<i>263.9</i>	<i>260.9</i>	<i>263.7</i>	<i>261.7</i>	<i>265.4</i>	<i>264.7</i>	<i>265.1</i>	<i>266.8</i>	<i>1032.3</i>	<i>1050.3</i>	<i>1062.0</i>
Primary Stock Levels ^a															
Opening	33.2	42.3	42.1	<i>36.2</i>	<i>33.0</i>	<i>35.0</i>	<i>36.0</i>	<i>34.0</i>	<i>33.0</i>	<i>36.0</i>	<i>35.0</i>	<i>34.0</i>	<i>33.2</i>	<i>33.0</i>	<i>33.0</i>
Closing	42.3	42.1	36.2	<i>33.0</i>	<i>35.0</i>	<i>36.0</i>	<i>34.0</i>	<i>33.0</i>	<i>36.0</i>	<i>35.0</i>	<i>34.0</i>	<i>33.0</i>	<i>33.0</i>	<i>33.0</i>	<i>33.0</i>
Net Withdrawals	-9.1	0.2	5.9	<i>3.2</i>	<i>-2.0</i>	<i>-1.0</i>	<i>2.0</i>	<i>1.0</i>	<i>-3.0</i>	<i>1.0</i>	<i>1.0</i>	<i>1.0</i>	<i>0.2</i>	<i>(S)</i>	<i>(S)</i>
Imports	1.8	1.6	1.7	<i>2.1</i>	<i>1.8</i>	<i>1.8</i>	<i>1.8</i>	<i>1.9</i>	<i>1.9</i>	<i>1.9</i>	<i>1.9</i>	<i>1.9</i>	<i>7.2</i>	<i>7.3</i>	<i>7.5</i>
Exports	19.0	23.2	22.2	<i>24.2</i>	<i>21.9</i>	<i>22.7</i>	<i>23.0</i>	<i>22.9</i>	<i>22.3</i>	<i>23.0</i>	<i>23.3</i>	<i>23.2</i>	<i>88.5</i>	<i>90.6</i>	<i>91.9</i>
Total Net Domestic Supply	238.9	227.2	241.8	<i>243.2</i>	<i>241.8</i>	<i>239.0</i>	<i>244.6</i>	<i>241.7</i>	<i>241.9</i>	<i>244.5</i>	<i>244.7</i>	<i>246.5</i>	<i>951.1</i>	<i>967.1</i>	<i>977.7</i>
Secondary Stock Levels ^b															
Opening	136.1	143.5	151.8	<i>131.6</i>	<i>134.5</i>	<i>131.3</i>	<i>149.4</i>	<i>139.7</i>	<i>140.1</i>	<i>140.2</i>	<i>155.8</i>	<i>140.4</i>	<i>136.1</i>	<i>134.5</i>	<i>140.1</i>
Closing	143.5	151.8	131.6	<i>134.5</i>	<i>131.3</i>	<i>149.4</i>	<i>139.7</i>	<i>140.1</i>	<i>140.2</i>	<i>155.8</i>	<i>140.4</i>	<i>140.2</i>	<i>134.5</i>	<i>140.1</i>	<i>140.2</i>
Net Withdrawals	-7.3	-8.4	20.2	<i>-2.9</i>	<i>3.2</i>	<i>-18.1</i>	<i>9.8</i>	<i>-0.4</i>	<i>-0.1</i>	<i>-15.6</i>	<i>15.4</i>	<i>0.2</i>	<i>1.6</i>	<i>-5.6</i>	<i>-0.1</i>
Total Supply	231.6	218.8	262.0	<i>240.3</i>	<i>245.0</i>	<i>220.9</i>	<i>254.4</i>	<i>241.2</i>	<i>241.8</i>	<i>228.9</i>	<i>260.2</i>	<i>246.7</i>	<i>952.8</i>	<i>961.4</i>	<i>977.6</i>
Demand															
Coke Plants	8.1	8.3	8.3	<i>8.1</i>	<i>8.1</i>	<i>8.2</i>	<i>8.1</i>	<i>8.2</i>	<i>8.0</i>	<i>8.1</i>	<i>8.1</i>	<i>8.3</i>	<i>32.8</i>	<i>32.6</i>	<i>32.5</i>
Electricity Production															
Electric Utilities	199.0	191.1	232.0	<i>207.1</i>	<i>212.5</i>	<i>191.0</i>	<i>223.9</i>	<i>208.0</i>	<i>209.3</i>	<i>198.8</i>	<i>229.3</i>	<i>213.1</i>	<i>829.2</i>	<i>835.4</i>	<i>850.5</i>
Nonutilities (Excl. Cogen.) ^c	2.9	2.9	2.9	<i>2.9</i>	<i>3.3</i>	<i>3.3</i>	<i>3.3</i>	<i>3.3</i>	<i>3.6</i>	<i>3.6</i>	<i>3.6</i>	<i>3.6</i>	<i>11.7</i>	<i>13.1</i>	<i>14.5</i>
Retail and General Industry ^d	20.6	17.9	18.9	<i>22.3</i>	<i>21.1</i>	<i>18.4</i>	<i>19.1</i>	<i>21.7</i>	<i>20.9</i>	<i>18.4</i>	<i>19.2</i>	<i>21.6</i>	<i>79.8</i>	<i>80.4</i>	<i>80.1</i>
Total Demand	230.7	220.3	262.2	<i>240.3</i>	<i>245.0</i>	<i>220.9</i>	<i>254.4</i>	<i>241.2</i>	<i>241.8</i>	<i>228.9</i>	<i>260.2</i>	<i>246.7</i>	<i>953.5</i>	<i>961.4</i>	<i>977.6</i>
Discrepancy ^e	0.9	-1.5	-0.1	<i>(S)</i>	<i>(S)</i>	<i>(S)</i>	<i>(S)</i>	<i>(S)</i>	<i>(S)</i>	<i>(S)</i>	<i>(S)</i>	<i>(S)</i>	<i>-0.7</i>	<i>(S)</i>	<i>(S)</i>

^aPrimary stocks are held at the mines, preparation plants, and distribution points.

^bSecondary stocks are held by users.

^cConsumption of coal by Independent Power Producers (IPPs). In 1993, IPP consumption was estimated to be 1.8 million tons per quarter. Quarterly estimates and projections for coal consumption by nonutility generators are based on estimates for quarterly coal-fired generation at nonutilities, supplied by the Office of Coal, Nuclear, Electric and Alternate Fuels, Energy Information Administration (EIA), based on annual data reported to EIA on Form EIA-867. Data for 1994 and 1995 are estimates.

^dSynfuels plant demand in 1993 was 1.7 million tons per quarter, and is assumed to remain at that level in 1994, 1995, 1996, and 1997.

^eHistorical period discrepancy reflects an unaccounted-for shipper and receiver reporting difference. Forecast discrepancy identically zero by assumption.

(S) indicates amounts of less than 50,000 tons in absolute value.

Notes: Rows and columns may not add due to independent rounding. Historical data are printed in bold, forecasts are in italic. The forecasts were generated by simulation of the Short-Term Integrated Forecasting System.

Sources: Historical data: Energy Information Administration, *Monthly Energy Review*, DOE/EIA-0035(96/02); and *Quarterly Coal Report*, DOE/EIA-0121(95/2Q); Projections: Energy Information Administration, Short-Term Integrated Forecasting System database, and Office of Coal, Nuclear, Electric and Alternate Fuels.

Table 12. U.S. Electricity Supply and Demand: Mid World Oil Price Case
(Billion Kilowatthours)

	1995				1996				1997				Year		
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1995	1996	1997
Supply															
Net Utility Generation															
Coal	398.3	382.9	460.2	411.8	<i>426.6</i>	<i>381.9</i>	<i>446.0</i>	<i>415.8</i>	<i>423.4</i>	<i>398.2</i>	<i>457.3</i>	<i>426.0</i>	1653.3	<i>1670.2</i>	<i>1704.9</i>
Petroleum	14.3	12.1	20.4	14.1	<i>16.0</i>	<i>14.8</i>	<i>20.0</i>	<i>15.9</i>	<i>16.5</i>	<i>17.1</i>	<i>21.7</i>	<i>16.8</i>	60.9	<i>66.6</i>	<i>72.1</i>
Natural Gas	59.6	75.1	113.3	59.0	<i>62.8</i>	<i>73.8</i>	<i>106.8</i>	<i>70.3</i>	<i>64.0</i>	<i>77.3</i>	<i>109.6</i>	<i>73.0</i>	306.9	<i>313.7</i>	<i>324.0</i>
Nuclear	167.1	160.1	179.4	166.8	<i>166.6</i>	<i>166.5</i>	<i>185.9</i>	<i>167.9</i>	<i>177.1</i>	<i>159.5</i>	<i>186.0</i>	<i>168.1</i>	673.4	<i>686.9</i>	<i>690.7</i>
Hydroelectric	74.7	78.4	67.7	72.8	<i>76.7</i>	<i>78.0</i>	<i>65.0</i>	<i>64.1</i>	<i>72.5</i>	<i>75.9</i>	<i>63.4</i>	<i>62.8</i>	293.7	<i>283.7</i>	<i>274.6</i>
Geothermal and Other ^a	1.4	1.2	1.7	2.2	<i>1.9</i>	<i>1.8</i>	<i>1.9</i>	<i>1.9</i>	<i>1.8</i>	<i>1.7</i>	<i>1.8</i>	<i>1.8</i>	6.4	<i>7.5</i>	<i>7.1</i>
Subtotal	715.4	709.8	842.8	726.7	<i>750.6</i>	<i>716.7</i>	<i>825.5</i>	<i>735.7</i>	<i>755.4</i>	<i>729.8</i>	<i>839.8</i>	<i>748.4</i>	2994.7	<i>3028.6</i>	<i>3073.4</i>
Nonutility Generation ^b															
Coal	14.7	16.2	15.7	15.0	<i>15.6</i>	<i>17.3</i>	<i>16.6</i>	<i>15.9</i>	<i>16.3</i>	<i>18.0</i>	<i>17.3</i>	<i>16.6</i>	61.5	<i>65.4</i>	<i>68.2</i>
Petroleum	3.7	4.1	3.9	3.7	<i>4.0</i>	<i>4.5</i>	<i>4.3</i>	<i>4.1</i>	<i>4.4</i>	<i>4.9</i>	<i>4.7</i>	<i>4.5</i>	15.4	<i>16.9</i>	<i>18.4</i>
Natural Gas	45.2	50.0	48.2	46.0	<i>48.2</i>	<i>53.3</i>	<i>51.4</i>	<i>49.1</i>	<i>50.3</i>	<i>55.7</i>	<i>53.7</i>	<i>51.3</i>	189.4	<i>201.9</i>	<i>211.1</i>
Other Gaseous Fuels ^c	3.0	3.3	3.2	3.0	<i>3.0</i>	<i>3.3</i>	<i>3.2</i>	<i>3.0</i>	<i>3.0</i>	<i>3.3</i>	<i>3.2</i>	<i>3.1</i>	12.5	<i>12.5</i>	<i>12.6</i>
Hydroelectric	3.2	3.6	3.5	3.3	<i>3.5</i>	<i>3.9</i>	<i>3.7</i>	<i>3.6</i>	<i>3.7</i>	<i>4.1</i>	<i>4.0</i>	<i>3.8</i>	13.6	<i>14.7</i>	<i>15.5</i>
Geothermal and Other ^d	19.1	21.1	20.4	19.5	<i>19.9</i>	<i>22.0</i>	<i>21.3</i>	<i>20.3</i>	<i>20.4</i>	<i>22.6</i>	<i>21.8</i>	<i>20.8</i>	80.1	<i>83.5</i>	<i>85.7</i>
Subtotal	88.8	98.3	94.8	90.5	<i>94.2</i>	<i>104.2</i>	<i>100.5</i>	<i>96.0</i>	<i>98.1</i>	<i>108.6</i>	<i>104.7</i>	<i>100.0</i>	372.5	<i>394.9</i>	<i>411.4</i>
Total Generation	804.2	808.2	937.6	817.2	<i>844.8</i>	<i>821.0</i>	<i>926.1</i>	<i>831.7</i>	<i>853.5</i>	<i>838.4</i>	<i>944.6</i>	<i>848.4</i>	3367.1	<i>3423.5</i>	<i>3484.8</i>
Net Imports ^e	8.3	9.8	11.4	7.8	<i>7.9</i>	<i>9.4</i>	<i>10.8</i>	<i>7.5</i>	<i>7.7</i>	<i>9.1</i>	<i>10.6</i>	<i>7.3</i>	37.4	<i>35.6</i>	<i>34.7</i>
Total Supply	812.5	818.0	949.0	825.1	<i>852.7</i>	<i>830.3</i>	<i>936.9</i>	<i>839.1</i>	<i>861.2</i>	<i>847.5</i>	<i>955.1</i>	<i>855.7</i>	3404.6	<i>3459.0</i>	<i>3519.5</i>
Losses and Unaccounted for ^f	47.2	73.3	63.9	56.1	<i>49.2</i>	<i>70.5</i>	<i>65.0</i>	<i>63.8</i>	<i>49.9</i>	<i>71.9</i>	<i>66.3</i>	<i>65.1</i>	240.6	<i>248.5</i>	<i>253.2</i>
Demand															
Electric Utility Sales															
Residential	262.7	222.9	313.2	246.5	<i>286.4</i>	<i>232.4</i>	<i>299.0</i>	<i>248.9</i>	<i>290.4</i>	<i>238.2</i>	<i>305.5</i>	<i>254.9</i>	1045.3	<i>1066.8</i>	<i>1089.0</i>
Commercial	198.2	203.7	242.9	209.4	<i>209.4</i>	<i>208.7</i>	<i>241.4</i>	<i>209.1</i>	<i>210.5</i>	<i>211.9</i>	<i>245.3</i>	<i>212.4</i>	854.2	<i>868.5</i>	<i>880.1</i>
Industrial	243.3	253.7	262.9	250.5	<i>245.0</i>	<i>253.1</i>	<i>265.2</i>	<i>254.6</i>	<i>247.4</i>	<i>258.9</i>	<i>270.9</i>	<i>259.7</i>	1010.5	<i>1017.9</i>	<i>1036.9</i>
Other	23.8	23.2	26.1	24.5	<i>24.6</i>	<i>23.5</i>	<i>25.7</i>	<i>23.9</i>	<i>24.2</i>	<i>23.6</i>	<i>25.8</i>	<i>24.0</i>	97.6	<i>97.7</i>	<i>97.6</i>
Subtotal	728.0	703.4	845.2	730.9	<i>765.4</i>	<i>717.7</i>	<i>831.3</i>	<i>736.5</i>	<i>772.5</i>	<i>732.6</i>	<i>847.5</i>	<i>751.0</i>	3007.5	<i>3050.9</i>	<i>3103.6</i>
Nonutility Gener. for Own Use ^b	37.3	41.3	39.8	38.0	<i>38.1</i>	<i>42.1</i>	<i>40.6</i>	<i>38.8</i>	<i>38.8</i>	<i>42.9</i>	<i>41.4</i>	<i>39.5</i>	156.5	<i>159.6</i>	<i>162.7</i>
Total Demand	765.4	744.7	885.0	768.9	<i>803.5</i>	<i>759.9</i>	<i>871.9</i>	<i>775.3</i>	<i>811.3</i>	<i>775.6</i>	<i>888.9</i>	<i>790.6</i>	3164.0	<i>3210.5</i>	<i>3266.3</i>
Memo:															
Nonutility Sales to Electric Utilities ^b	51.5	57.0	55.0	52.5	<i>56.1</i>	<i>62.1</i>	<i>59.9</i>	<i>57.2</i>	<i>59.3</i>	<i>65.7</i>	<i>63.3</i>	<i>60.4</i>	216.0	<i>235.3</i>	<i>248.7</i>

^aOther includes generation from wind, wood, waste, and solar sources.

^bElectricity from nonutility sources, including cogenerators and small power producers. Quarterly estimates and projections for nonutility net sales, own use, and generation by fuel source supplied by the Office of Coal, Nuclear, Electric and Alternate Fuels, Energy Information Administration (EIA), based on annual data reported to EIA on Form EIA-867, "Annual Nonutility Power Producer Report." Data for 1994 and 1995 are estimates.

^cIncludes refinery still gas and other process or waste gases, and liquefied petroleum gases.

^dIncludes geothermal, solar, wind, wood, waste, nuclear, hydrogen, sulfur, batteries, chemicals and spent sulfite liquor.

^eData for 1994 and 1995 are estimates.

^fBalancing item, mainly transmission and distribution losses.

Notes: Minor discrepancies with other EIA published historical data are due to rounding. Historical data are printed in bold, forecasts are in italic. The forecasts were generated by simulation of the Short-Term Integrated Forecasting System.

Sources: Historical data: Energy Information Administration, *Monthly Energy Review*, DOE/EIA-0035(96/02); *Electric Power Monthly*, DOE/EIA-0226(96/01); Projections: Energy Information Administration, Short-Term Integrated Forecasting System database, and Office of Coal, Nuclear, Electric and Alternate Fuels.

Table 13. U.S. Renewable Energy Use by Sector: Mid World Oil Price Case
(Quadrillion Btu)

	Year				Annual Percentage Change		
	1994	1995	1996	1997	1994-1995	1995-1996	1996-1997
Electric Utilities							
Hydroelectric Power ^a	2.536	3.057	<i>2.953</i>	<i>2.859</i>	20.5	<i>-3.4</i>	<i>-3.2</i>
Geothermal, Solar and Wind Energy ^b	0.145	0.099	<i>0.119</i>	<i>0.109</i>	-31.7	<i>20.2</i>	<i>-8.4</i>
Biofuels ^c	0.020	0.017	<i>0.018</i>	<i>0.019</i>	-15.0	<i>5.9</i>	<i>5.6</i>
Total	2.702	3.173	<i>3.090</i>	<i>2.986</i>	17.4	<i>-2.6</i>	<i>-3.4</i>
Nonutility Power Generators							
Hydroelectric Power ^a	0.136	0.140	<i>0.151</i>	<i>0.160</i>	2.9	<i>7.9</i>	<i>6.0</i>
Geothermal, Solar and Wind Energy ^b	0.256	0.275	<i>0.290</i>	<i>0.301</i>	7.4	<i>5.5</i>	<i>3.8</i>
Biofuels ^c	0.590	0.625	<i>0.650</i>	<i>0.665</i>	5.9	<i>4.0</i>	<i>2.3</i>
Total	0.982	1.040	<i>1.091</i>	<i>1.126</i>	5.9	<i>4.9</i>	<i>3.2</i>
Total Power Generation	3.684	4.213	<i>4.181</i>	<i>4.112</i>	14.4	<i>-0.8</i>	<i>-1.7</i>
Other Sectors							
Residential and Commercial ^d	0.610	0.607	<i>0.622</i>	<i>0.623</i>	-0.5	<i>2.5</i>	<i>0.2</i>
Industrial ^e	1.669	1.518	<i>1.578</i>	<i>1.698</i>	-9.0	<i>4.0</i>	<i>7.6</i>
Transportation ^f	0.088	0.095	<i>0.095</i>	<i>0.095</i>	8.0	<i>0.0</i>	<i>0.0</i>
Total	2.367	2.220	<i>2.295</i>	<i>2.416</i>	-6.2	<i>3.4</i>	<i>5.3</i>
Net Imported Electricity ^g	0.459	0.385	<i>0.366</i>	<i>0.356</i>	-16.1	<i>-4.9</i>	<i>-2.7</i>
Total Renewable Energy Demand	6.510	6.817	<i>6.841</i>	<i>6.885</i>	4.7	<i>0.4</i>	<i>0.6</i>

^aConventional hydroelectric power only. Hydroelectricity generated by pumped storage is not included in renewable energy.

^bAlso includes photovoltaic and solar thermal energy.

^cBiofuels are fuelwood, wood byproducts, waste wood, municipal solid waste, manufacturing process waste, and alcohol fuels.

^dIncludes biofuels and solar energy consumed in the residential and commercial sectors.

^eConsists primarily of biofuels for use other than electricity cogeneration.

^fEthanol blended into gasoline.

^gNet imports of electricity are included in renewables because they stem principally from hydroelectric power generators in Canada. However, it should be noted that in actuality, only about 77 percent of gross imports of electricity from Canada were attributable to renewable energy sources in 1993, based on statistics from Natural Resources Canada, *Electric Power in Canada 1993* (Ottawa: 1994), p. 89.

(S) indicates amounts of less than 500 billion Btu.

NM indicates percent change calculations are not meaningful or undefined at the precision level of this table.

Notes: Minor discrepancies with other published EIA historical data are due to independent rounding. Historical data are printed in bold, forecasts are in italic. The forecasts were generated by simulation of the Short-Term Integrated Forecasting System.

Sources: Historical data: 1995: Estimates derived from Energy Information Administration, Short-Term Integrated Forecasting System database, and Office of Coal, Nuclear, Electric and Alternate Fuels Energy Information Administration; Projections: Renewables growth in sectors other than electric utilities taken from Energy Information Administration, *Annual Energy Outlook 1995* database and Office of Coal, Nuclear, Electric and Alternate Fuels Energy Information Administration.

Table A1. Annual U.S. Energy Supply and Demand

	Year														
	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Real Gross Domestic Product (GDP) (billion chained 1992 dollars) ^a	4810	5138	5330	5490	5648	5863	6060	6139	6079	6244	6384	6604	6740	<i>6851</i>	<i>7001</i>
Imported Crude Oil Price ^b (nominal dollars per barrel)	29.30	28.88	26.99	14.00	18.13	14.61	18.06	21.78	18.73	18.20	16.14	15.52	17.14	<i>16.82</i>	<i>16.00</i>
Petroleum Supply															
Crude Oil Production ^c (million barrels per day)	8.69	8.88	8.97	8.68	8.35	8.14	7.61	7.36	7.42	7.17	6.85	6.66	6.53	<i>6.30</i>	<i>6.10</i>
Total Petroleum Net Imports (including SPR) (million barrels per day)	4.31	4.72	4.29	5.44	5.91	6.59	7.20	7.16	6.63	6.94	7.62	8.05	7.88	<i>8.70</i>	<i>9.24</i>
Energy Demand															
World Petroleum (million barrels per day)	59.0	59.9	60.6	62.2	63.4	65.2	66.0	66.2	66.8	66.6	66.6	68.6	69.7	<i>71.4</i>	<i>73.2</i>
U.S. Petroleum (million barrels per day)	15.26	15.76	15.78	16.33	16.72	17.34	17.37	17.04	16.77	17.10	17.24	17.72	17.70	<i>18.10</i>	<i>18.45</i>
Natural Gas (trillion cubic feet)	16.83	17.95	17.28	16.22	17.21	18.03	18.80	18.72	19.03	19.54	20.28	20.75	21.58	<i>21.94</i>	<i>22.53</i>
Coal (million short tons)	737	791	818	804	837	884	894	900	893	899	933	940	953	<i>961</i>	<i>978</i>
Electricity (billion kilowatthours)															
Utility Sales	2151	2286	2324	2369	2457	2578	2647	2713	2762	2763	2861	2921	3008	<i>3051</i>	<i>3104</i>
Nonutility Own Use ^e	NA	NA	NA	NA	NA	NA	108	113	122	132	138	150	156	<i>160</i>	<i>163</i>
Total	NA	NA	NA	NA	NA	NA	2755	2826	2884	2895	2999	3071	3164	<i>3211</i>	<i>3266</i>
Total Energy Demand ^f (quadrillion Btu)	70.5	74.1	74.0	74.3	76.9	80.2	81.3	81.3	80.9	81.9	83.6	84.9	87.0	<i>88.5</i>	<i>90.0</i>
Total Energy Demand per Dollar of GDP (thousand Btu per 1992 Dollar)	14.66	14.43	13.88	13.53	13.61	13.68	13.42	13.24	13.30	13.11	13.09	12.86	12.92	<i>12.92</i>	<i>12.85</i>
Adjusted Total Energy Demand ^f (quadrillion Btu)	NA	NA	NA	NA	NA	NA	NA	84.1	84.0	85.2	86.9	88.5	90.4	<i>92.0</i>	<i>93.6</i>
Adjusted Total Energy Demand per Dollar of GDP (thousand Btu per 1992 Dollar)	NA	NA	NA	NA	NA	NA	NA	13.70	13.81	13.64	13.61	13.40	13.41	<i>13.42</i>	<i>13.37</i>

^aIn accordance with the January 1996 revisions of the National Income and Product Accounts by the Bureau of Economic Analysis, macroeconomic measures have been changed from fixed-weighted to chain-weighted, and base year has been changed from 1987 to 1992.

^bRefers to the imported cost of crude oil to U.S. refiners assumed for the scenario depicted. In all cases on this table, the mid macroeconomic case and normal weather are used.

^cIncludes lease condensate.

^dTotal annual electric utility sales for historical periods are derived from the sum of monthly sales figures based on submissions by electric utilities of Form EIA-826, "Monthly Electric Utility Sales and Revenue Report with State Distributions." These historical values differ from annual sales totals based on Form EIA-861, reported in several EIA publications, but match alternate annual totals reported in EIA's *Electric Power Monthly*, DOE/EIA-0226.

^eDefined as the difference between total nonutility electricity generation and sales to electric utilities by nonutility generators, reported on Form EIA-867, "Annual Nonutility Power Producer Report." Data for 1995 are estimates.

^f"Total Energy Demand" refers to the aggregate energy concept presented in Energy Information Administration, Annual Energy Review, 1995, DOE/EIA-0384(95) Tables 1.1, 1.3 and 2.1. "Adjusted Total Energy Demand" refers to the aggregate energy demand concept reported in the same tables for 1990 and beyond. The former concept is extended here in order to provide a more consistent long-term energy demand series. The latter concept is more comprehensive and is intended as the primary energy demand aggregate for assessing energy intensity trends since 1990. The adjusted measure incorporates information on renewable energy consumption among households, commercial establishments, and electricity generating facilities other than electric utilities (including industrial cogenerators). The conversion from physical units to Btu is calculated using a subset of conversion factors used in the calculations performed for gross energy consumption in Energy Information Administration, *Monthly Energy Review* (MER). Consequently, the historical data may not precisely match that published in the MER or the AER.

SPR: Strategic Petroleum Reserve.

Notes: Minor discrepancies with other published EIA historical data are due to independent rounding. Historical data are printed in bold, forecasts are in italic. The forecasts were generated by simulation of the Short-Term Integrated Forecasting System.

Sources: Historical data: Energy Information Administration, *Monthly Energy Review*, DOE/EIA-0035(96/02); *Petroleum Supply Monthly*, DOE/EIA-0109(96/02); *Petroleum Supply Annual 1994*, DOE/EIA-0340(94)/2; *Natural Gas Monthly*, DOE/EIA-0130(96/02); *Electric Power Monthly*, DOE/EIA-0226(96/01); and *Quarterly Coal Report*, DOE/EIA-0121(95/2Q). Macroeconomic projections are based on DRI/McGraw-Hill Forecast CONTROL0296.

Table A2. Annual U.S. Macroeconomic and Weather Indicators

	Year														
	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Macroeconomic ^a															
Real Gross Domestic Product (billion chained 1992 dollars)	4810	5138	5330	5490	5648	5863	6060	6139	6079	6244	6384	6604	6740	<i>6851</i>	<i>7001</i>
GDP Implicit Price Deflator (Index, 1992=1.000)	0.732	0.759	0.786	0.806	0.831	0.861	0.897	0.936	0.973	1.000	1.026	1.049	1.077	<i>1.103</i>	<i>1.127</i>
Real Disposable Personal Income (billion chained 1992 dollars)	3580	3842	3959	4087	4154	4318	4404	4485	4486	4614	4666	4776	4923	<i>5037</i>	<i>5136</i>
Manufacturing Production (Index, 1987=1.000)	0.809	0.893	0.916	0.943	1.000	1.047	1.064	1.061	1.038	1.083	1.125	1.198	1.240	<i>1.258</i>	<i>1.311</i>
Real Fixed Investment (billion chained 1992 dollars)	654	762	799	805	799	818	832	806	741	783	836	921	978	<i>1005</i>	<i>1012</i>
Real Exchange Rate (index)	NA	NA	NA	NA	NA	NA	NA	1.000	1.012	1.015	1.063	1.040	0.969	<i>0.975</i>	<i>0.938</i>
Business Inventory Change (billion chained 1992 dollars)	-0.1	28.9	-4.5	-4.2	5.1	9.5	19.2	6.6	-6.1	-9.3	5.5	8.3	11.4	<i>5.3</i>	<i>10.0</i>
Producer Price Index (index, 1980-1984=1.000)	1.013	1.037	1.032	1.002	1.028	1.069	1.122	1.163	1.165	1.172	1.189	1.205	1.248	<i>1.256</i>	<i>1.268</i>
Consumer Price Index (index, 1980-1984=1.000)	0.996	1.039	1.076	1.097	1.137	1.184	1.240	1.308	1.363	1.404	1.446	1.483	1.525	<i>1.567</i>	<i>1.610</i>
Petroleum Product Price Index (index, 1980-1984=1.000)	0.899	0.874	0.832	0.532	0.568	0.539	0.612	0.748	0.671	0.647	0.620	0.591	0.606	<i>0.625</i>	<i>0.612</i>
Non-Farm Employment (millions)	90.1	94.4	97.4	99.3	102.0	105.2	107.9	109.4	108.3	108.6	110.7	114.0	116.6	<i>118.0</i>	<i>119.8</i>
Commercial Employment (millions)	54.9	58.0	60.8	62.9	65.2	67.8	70.0	71.3	70.8	71.2	73.2	76.0	78.3	<i>79.8</i>	<i>81.4</i>
Total Industrial Production (index, 1987=1.000)	0.849	0.928	0.944	0.953	1.000	1.045	1.061	1.061	1.042	1.078	1.116	1.181	1.220	<i>1.237</i>	<i>1.282</i>
Housing Stock (millions)	92.4	94.5	96.3	98.0	99.8	101.6	102.9	103.5	104.5	105.5	106.8	108.2	109.8	<i>111.1</i>	<i>112.4</i>
Weather ^b															
Heating Degree-Days U.S.	4627	4514	4642	4295	4334	4653	4726	4016	4200	4441	4700	4483	4562	<i>4562</i>	<i>4576</i>
New England	6305	6442	6571	6517	6546	6715	6887	5848	5960	6844	6728	6672	6596	<i>6630</i>	<i>6621</i>
Middle Atlantic	5733	5777	5660	5665	5699	6088	6134	4998	5177	5964	5948	5934	5826	<i>5828</i>	<i>5839</i>
U.S. Gas-Weighted	4810	4704	4856	4442	4391	4779	4856	4139	4337	4458	4754	4659	4707	<i>4728</i>	<i>4732</i>
Cooling Degree-Days (U.S.)	1260	1214	1194	1249	1269	1283	1156	1260	1331	1040	1218	1220	1279	<i>1191</i>	<i>1193</i>

^aIn accordance with the January 1996 revisions of the National Income and Product Accounts by the Bureau of Economic Analysis, macroeconomic measures have been changed from fixed-weighted to chain-weighted, and base year has been changed from 1987 to 1992.

^bPopulation-weighted degree days. A degree day indicates the temperature variation from 65 degrees Fahrenheit (calculated as the simple average of the daily minimum and maximum temperatures) weighted by 1990 population. Normal is used for the forecast period and is defined as the average number of degree days between 1961 and 1990 for a given period.

Notes: Historical data are printed in bold, forecasts are in italic.

Sources: Historical data: Energy Information Administration, *Monthly Energy Review*, DOE/EIA-0035(96/02); U.S. Department of Commerce, Bureau of Economic Analysis, *Survey of Current Business*, January 1996; U.S. Department of Commerce, National Oceanic and Atmospheric Administration, *Monthly State, Regional, and National Heating/Cooling Degree Days Weighted by Population*, Federal Reserve System, *Statistical Release G.17(419)*, January 1996. Macroeconomic projections are based on DRI/McGraw-Hill Forecast CONTROL0296.

Table A3. Annual International Petroleum Supply and Demand Balance
(Millions Barrels per Day Except Closing Stocks)

	Year														
	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Demand ^a															
OECD															
U.S. (50 States)	15.5	15.8	15.8	16.3	16.7	17.3	17.4	17.0	16.8	17.1	17.2	17.7	17.7	18.1	18.4
Europe ^b	12.1	12.1	12.0	12.5	12.6	12.7	12.8	12.6	13.4	13.6	13.5	13.6	13.9	14.0	14.2
Japan	4.4	4.6	4.4	4.4	4.5	4.8	5.0	5.1	5.3	5.4	5.4	5.7	5.7	5.8	5.9
Other OECD	2.4	2.5	2.5	2.5	2.5	2.6	2.7	2.7	2.7	2.7	2.8	2.9	3.0	3.0	3.1
Total OECD	34.4	34.9	34.7	35.7	36.3	37.5	37.9	37.5	38.1	38.8	38.9	39.9	40.3	40.9	41.6
Non-OECD															
Former Soviet Union	9.0	8.9	9.0	9.0	9.0	8.9	8.7	8.4	8.4	6.8	5.8	4.8	4.6	4.6	4.7
Europe	1.8	1.8	2.2	2.2	2.2	2.2	2.1	2.0	1.3	1.3	1.2	1.4	1.4	1.4	1.5
China	1.7	1.7	1.9	2.0	2.1	2.3	2.4	2.3	2.5	2.7	3.1	3.1	3.3	3.5	3.7
Other Asia	3.5	3.7	3.7	3.9	4.1	4.4	4.9	5.3	5.7	6.1	6.4	7.4	8.0	8.5	9.0
Other Non-OECD	8.7	8.9	9.1	9.5	9.7	10.0	10.4	10.7	10.8	10.9	11.2	12.0	12.2	12.5	12.8
Total Non-OECD	24.7	25.1	25.9	26.5	27.1	27.7	28.5	28.7	28.6	27.8	27.7	28.7	29.5	30.5	31.7
Total World Demand	59.0	59.9	60.6	62.2	63.4	65.2	66.4	66.2	66.8	66.6	66.6	68.6	69.7	71.4	73.2
Supply ^c															
OECD															
U.S. (50 States)	10.8	11.1	11.2	10.9	10.6	10.5	9.9	9.7	9.9	9.8	9.6	9.4	9.4	9.2	9.0
Canada	1.7	1.8	1.8	1.8	2.0	2.0	2.0	2.0	2.0	2.1	2.2	2.3	2.4	2.5	2.6
North Sea ^d	3.1	3.4	3.6	3.8	3.8	3.8	3.7	3.9	4.0	4.3	4.6	5.4	5.8	6.4	6.5
Other OECD	1.2	1.3	1.4	1.3	1.4	1.4	1.3	1.5	1.5	1.5	1.3	1.5	1.5	1.5	1.5
Total OECD	16.8	17.6	18.0	17.9	17.8	17.7	17.0	17.0	17.5	17.8	17.8	18.6	19.1	19.6	19.6
Non-OECD															
OPEC	18.5	18.5	17.3	19.5	19.7	21.6	23.5	24.5	25.0	26.2	27.3	27.4	28.0	28.4	29.2
Former Soviet Union	12.3	12.2	11.9	12.3	12.5	12.5	12.1	11.4	10.4	8.9	8.1	7.0	7.0	7.0	7.1
China	2.1	2.3	2.5	2.6	2.7	2.7	2.8	2.8	2.8	2.8	2.9	2.9	3.0	3.1	3.2
Mexico	3.0	3.1	3.0	2.8	2.9	2.9	2.9	3.0	3.2	3.2	3.2	3.2	3.1	3.4	3.5
Other Non-OECD	5.4	10.3	6.4	6.7	6.8	7.2	7.5	7.7	7.8	8.1	8.4	8.8	9.4	10.0	10.5
Total Non-OECD	41.3	42.0	41.2	43.9	44.6	47.0	48.9	49.4	49.2	49.2	49.8	49.4	50.5	51.8	53.4
Total World Supply	58.1	59.6	59.3	61.8	62.4	64.7	65.9	66.4	66.7	66.9	67.6	68.0	69.6	71.4	73.1
Total Stock Withdrawals	0.4	-0.2	0.3	-0.9	-0.1	-0.4	-0.2	-0.2	0.1	-0.3	-1.0	0.6	0.1	0.0	0.1
Statistical Discrepancy	0.3	0.4	0.5	0.9	0.7	0.6	0.4	0.3	0.2	0.3	0.1	0.3	0.2	0.3	0.3
Closing Stocks (billion barrels) ^e	4.8	4.8	4.7	5.1	5.1	5.2	5.3	5.4	5.4	5.5	5.8	5.6	5.6	5.6	5.5
Net Exports from Former Soviet Union	3.4	3.3	3.0	3.4	3.5	3.6	3.4	3.0	2.1	2.1	2.3	2.2	2.4	2.4	2.4

^aDemand for petroleum by the OECD countries is synonymous with "petroleum product supplied" which is defined in the glossary of the EIA *Petroleum Supply Monthly*, DOE/EIA-0109. Demand for petroleum by the non-OECD countries is "apparent consumption" which includes internal consumption, refinery fuel and loss, and bunkering.

^bOECD Europe includes the former East Germany.

^cIncludes production of crude oil (including lease condensates), natural gas plant liquids, other hydrogen and hydrocarbons for refinery feedstocks, refinery gains, alcohol, and liquids produced from coal and other sources.

^dIncludes offshore supply from Denmark, Germany, the Netherlands, Norway, and the United Kingdom.

^eExcludes stocks held in the Former CPEs.

OECD: Organization for Economic Cooperation and Development: Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Japan, Luxembourg, the Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, Turkey, the United Kingdom, and the United States. Mexico is also a member, but OECD data does not yet include Mexico.

OPEC: Organization of Petroleum Exporting Countries: Algeria, Gabon, Indonesia, Iran, Iraq, Kuwait, Libya, Nigeria, Qatar, Saudi Arabia, the United Arab Emirates, and Venezuela.

SPR: Strategic Petroleum Reserve

Former Soviet Union: Armenia, Azerbaijan, Belarus, Estonia, Georgia, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Moldova, Russia, Tajikistan, Turkmenistan, Ukraine and Uzbekistan.

Notes: Minor discrepancies with other published EIA historical data are due to rounding. Historical data are printed in bold, forecasts are in italic. The forecasts were generated by simulation of the Short-Term Integrated Forecasting System.

Sources: Energy Information Administration, *International Petroleum Statistics Report*, DOE/EIA-0520(95/12); and *International Energy Annual 1994*, DOE/EIA-0219(94); Organization for Economic Cooperation and Development, Annual and Monthly Oil Statistics Database, January 1996.

Table A4. Annual Average U.S. Energy Prices
(Nominal Dollars)

	Year														
	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Imported Crude Oil ^a (dollars per barrel)	29.30	28.88	26.99	14.00	18.13	14.61	18.06	21.78	18.73	18.20	16.14	15.52	17.14	16.82	16.00
Natural Gas Wellhead (dollars per thousand cubic feet)	2.59	2.65	2.51	1.94	1.66	1.69	1.69	1.71	1.64	1.74	2.04	1.87	1.60	2.05	1.90
Petroleum Product															
Gasoline Retail ^b (dollars per gallon)	1.22	1.20	1.20	0.93	0.96	0.96	1.06	1.22	1.20	1.19	1.17	1.17	1.21	1.22	1.24
No. 2 Diesel Oil, Retail (dollars per gallon)	1.15	1.16	1.16	0.88	0.93	0.91	0.99	1.16	1.12	1.10	1.11	1.11	1.11	1.12	1.12
No. 2 Heating Oil, Wholesale (dollars per gallon)	0.81	0.82	0.78	0.49	0.53	0.47	0.56	0.70	0.62	0.58	0.54	0.51	0.51	0.53	0.51
No. 2 Heating Oil, Retail (dollars per gallon)	NA	1.09	1.05	0.84	0.80	0.81	0.90	1.06	1.02	0.93	0.91	0.88	0.87	0.93	0.91
No. 6 Residual Fuel Oil, Retail ^c (dollars per barrel)	27.33	28.89	25.57	14.46	17.76	14.04	16.20	18.66	14.32	14.21	14.00	14.79	16.47	16.30	15.20
Electric Utility Fuel															
Coal (dollars per million Btu)	1.65	1.66	1.65	1.58	1.51	1.47	1.44	1.45	1.45	1.41	1.38	1.36	1.32	1.29	1.28
Heavy Fuel Oil ^d (dollars per million Btu)	4.57	4.81	4.26	2.40	2.98	2.41	2.85	3.22	2.49	2.46	2.36	2.40	2.63	2.77	2.60
Natural Gas (dollars per million Btu)	3.47	3.58	3.43	2.35	2.24	2.26	2.36	2.32	2.15	2.33	2.56	2.23	1.99	2.48	2.39
Other Residential															
Natural Gas (dollars per thousand cubic feet)	6.04	6.12	6.12	5.83	5.55	5.47	5.64	5.80	5.82	5.89	6.17	6.41	6.18	6.53	6.48
Electricity (cents per kilowatthour)	7.2	7.6	7.8	7.4	7.4	7.5	7.6	7.8	8.1	8.2	8.3	8.4	8.4	8.4	8.4

^aCost of imported crude oil to U.S.

^bAverage for all grades and services.

^cAverage for all sulfur contents.

^dIncludes fuel oils No. 4, No. 5, and No. 6 and topped crude fuel oil prices.

Notes: Data are estimated for the fourth quarter of 1995. Prices exclude taxes, except prices for gasoline, residential natural gas, and diesel. Price cases are derived by simulating all energy product price models under the assumptions of the three world oil price cases using the mid macroeconomic case and normal weather assumptions for all simulations. The forecasts were generated by simulation of the Short-Term Integrated Forecasting System.

Sources: Historical data: Energy Information Administration, *Monthly Energy Review*, DOE/EIA-0035(96/02); and *Petroleum Marketing Monthly*, DOE/EIA-0380(96/02).

Table A5. Annual U.S. Petroleum Supply and Demand
(Million Barrels per Day Except Closing Stocks)

	Year														
	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Supply															
Crude Oil Supply															
Domestic Production ^a	8.69	8.88	8.97	8.68	8.35	8.14	7.61	7.36	7.42	7.17	6.85	6.66	6.53	6.30	6.10
Alaska	1.71	1.72	1.83	1.87	1.96	2.02	1.87	1.77	1.80	1.71	1.58	1.56	1.49	1.36	1.27
Lower 48	6.97	7.16	7.15	6.81	6.39	6.12	5.74	5.58	5.62	5.46	5.26	5.10	5.04	4.94	4.83
Net Imports (including SPR) ^b	3.17	3.25	3.00	4.02	4.52	4.95	5.70	5.79	5.67	5.99	6.69	6.96	7.15	7.61	8.24
Other SPR Supply	0.01	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.01	0.02	0.00	0.00	0.00	0.00
Stock Draw (Including SPR)	-0.22	-0.20	-0.05	-0.08	-0.12	0.00	-0.09	0.02	-0.01	0.01	-0.06	-0.02	0.10	-0.02	-0.03
Product Supplied and Losses	-0.07	-0.07	-0.06	-0.05	-0.03	-0.04	-0.03	-0.02	-0.02	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
Unaccounted-for Crude Oil	0.11	0.18	0.15	0.14	0.14	0.20	0.20	0.26	0.20	0.26	0.17	0.27	0.21	0.30	0.28
Total Crude Oil Supply	11.69	12.04	12.00	12.72	12.85	13.25	13.40	13.41	13.30	13.41	13.61	13.87	13.97	14.19	14.58
Other Supply															
NGL Production	1.56	1.63	1.61	1.55	1.59	1.62	1.55	1.56	1.66	1.70	1.74	1.73	1.76	1.75	1.76
Other Hydrocarbon and Alcohol Inputs	0.08	0.08	0.11	0.11	0.12	0.11	0.11	0.13	0.15	0.20	0.25	0.26	0.30	0.32	0.34
Crude Oil Product Supplied	0.07	0.06	0.06	0.05	0.03	0.04	0.03	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.01
Processing Gain	0.49	0.55	0.56	0.62	0.64	0.66	0.66	0.70	0.71	0.77	0.76	0.77	0.77	0.79	0.81
Net Product Imports ^c	1.15	1.47	1.29	1.41	1.39	1.63	1.50	1.38	0.96	0.94	0.93	1.09	0.74	1.09	1.00
Product Stock Withdrawn or Added (-) ^d	0.15	-0.08	0.15	-0.12	0.09	0.03	0.13	-0.14	-0.04	0.06	-0.05	0.00	0.15	-0.05	-0.05
Total Supply	15.18	15.76	15.78	16.33	16.72	17.33	17.37	17.05	16.76	17.10	17.25	17.72	17.70	18.10	18.45
Demand															
Motor Gasoline ^e	6.58	6.69	6.78	6.94	7.19	7.36	7.40	7.31	7.23	7.38	7.48	7.60	7.79	7.95	8.12
Jet Fuel	1.05	1.18	1.22	1.31	1.38	1.45	1.49	1.52	1.47	1.45	1.47	1.53	1.51	1.55	1.56
Distillate Fuel Oil	2.69	2.84	2.87	2.91	2.98	3.12	3.16	3.02	2.92	2.98	3.04	3.16	3.20	3.32	3.37
Residual Fuel Oil	1.42	1.37	1.20	1.42	1.26	1.38	1.37	1.23	1.16	1.09	1.08	1.02	0.85	0.89	0.91
Other Oils ^f	3.53	3.68	3.71	3.75	3.90	4.03	3.95	3.95	3.99	4.20	4.17	4.41	4.35	4.39	4.49
Total Demand ^g	15.26	15.76	15.78	16.33	16.72	17.34	17.37	17.04	16.77	17.10	17.24	17.72	17.70	18.10	18.45
Total Petroleum Net Imports	4.31	4.72	4.29	5.44	5.91	6.59	7.20	7.16	6.63	6.94	7.62	8.05	7.88	8.70	9.24
Closing Stocks (million barrels)															
Crude Oil (excluding SPR) ^h	344	345	321	331	349	330	341	323	325	318	335	337	302	308	320
Total Motor Gasoline	222	243	223	233	226	228	213	220	219	216	226	215	202	204	213
Jet Fuel	39	42	40	50	50	44	41	52	49	43	40	47	40	43	45
Distillate Fuel Oil	140	161	144	155	134	124	106	132	144	141	141	145	130	135	135
Residual Fuel Oil	49	53	50	47	47	45	44	49	50	43	44	42	37	42	42
Other Oils ^h	281	261	247	265	260	267	257	261	267	263	273	275	259	264	273

^aIncludes lease condensate.

^bNet imports equals gross imports plus SPR imports minus exports.

^cIncludes finished petroleum products, unfinished oils, gasoline blending components, and natural gas plant liquids for processing.

^dIncludes an estimate of minor product stock change based on monthly data.

^eFor years prior to 1993, motor gasoline includes an estimate of fuel ethanol blended into gasoline and certain product reclassifications, not reported elsewhere in EIA. See Appendix B in Energy Information Administration, *Short-Term Energy Outlook*, EIA/DOE-0202(93/3Q), for details on this adjustment.

^fIncludes crude oil product supplied, natural gas liquids, liquefied refinery gas, other liquids, and all finished petroleum products except motor gasoline, jet fuel, distillate, and residual fuel oil.

^gIncludes crude oil in transit to refineries.

^hIncludes stocks of all other oils such as aviation gasoline, kerosene, natural gas liquids (including ethane), aviation gasoline blending components, naphtha and other oils for petrochemical feedstock use, special naphthas, lube oils, wax, coke, asphalt, road oil, and miscellaneous oils.

SPR: Strategic Petroleum Reserve

NGL: Natural Gas Liquids

Notes: Minor discrepancies with other EIA published historical data are due to rounding. Historical data are printed in bold, forecasts are in italic. The forecasts were generated by simulation of the Short-Term Integrated Forecasting System.

Sources: Historical data: Energy Information Administration, *Petroleum Supply Monthly*, DOE/EIA-0109(93/01-96/02); and *Weekly Petroleum Status Report*, DOE/EIA-0208(various issues).

Table A6. Annual U.S. Natural Gas Supply and Demand
(Trillion Cubic Feet)

	Year														
	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Supply															
Total Dry Gas Production ^a	16.09	17.47	16.45	16.06	16.62	17.10	17.31	17.81	17.70	17.84	18.10	18.75	18.60	19.44	19.93
Net Imports	0.86	0.79	0.89	0.69	0.94	1.22	1.27	1.45	1.64	1.92	2.21	2.46	2.54	2.74	2.78
Supplemental Gaseous Fuels	0.13	0.11	0.13	0.11	0.10	0.10	0.11	0.12	0.11	0.12	0.12	0.11	0.13	0.12	0.12
Total New Supply	17.09	18.36	17.47	16.86	17.66	18.42	18.69	19.38	19.45	19.88	20.42	21.32	21.26	22.30	22.83
Underground Working Gas Storage															
Opening	6.88	6.44	6.71	6.45	6.57	6.55	6.65	6.33	6.94	6.78	6.64	6.65	6.97	6.38	6.52
Closing	6.44	6.71	6.45	6.57	6.55	6.65	6.33	6.94	6.78	6.64	6.65	6.97	6.38	6.52	6.61
Net Withdrawals	0.44	-0.26	0.26	-0.12	0.02	-0.10	0.33	-0.61	0.16	0.14	-0.01	-0.32	0.59	-0.14	-0.09
Total Supply ^a	17.53	18.10	17.73	16.74	17.68	18.32	19.02	18.77	19.61	20.02	20.42	21.00	21.85	22.16	22.74
Balancing Item ^b	-0.69	-0.15	-0.45	-0.52	-0.47	-0.29	-0.22	-0.05	-0.58	-0.47	-0.14	-0.25	-0.28	-0.21	-0.21
Total Primary Supply ^a	16.83	17.95	17.28	16.22	17.21	18.03	18.80	18.72	19.03	19.54	20.28	20.75	21.58	21.94	22.53
Demand															
Lease and Plant Fuel	0.98	1.08	0.97	0.92	1.15	1.10	1.07	1.24	1.13	1.17	1.17	1.16	1.23	1.23	1.26
Pipeline Use	0.49	0.53	0.50	0.49	0.52	0.61	0.63	0.66	0.60	0.59	0.62	0.69	0.72	0.72	0.75
Residential	4.38	4.56	4.43	4.31	4.31	4.63	4.78	4.39	4.56	4.69	4.96	4.85	4.84	5.01	5.08
Commercial	2.43	2.52	2.43	2.32	2.43	2.67	2.72	2.62	2.73	2.80	2.86	2.90	3.06	3.15	3.21
Industrial (Incl. Nonutilities)	5.64	6.15	5.90	5.58	5.95	6.38	6.82	7.02	7.23	7.53	7.98	8.18	8.54	8.53	8.83
Cogenerators ^c	NA	NA	NA	NA	NA	NA	1.12	1.30	1.41	1.67	1.80	1.98	2.06	2.16	2.26
Other Nonutil. Gen. ^c	NA	NA	NA	NA	NA	NA	0.06	0.09	0.16	0.18	0.22	0.17	0.19	0.20	0.21
Electric Utilities	2.91	3.11	3.04	2.60	2.84	2.64	2.79	2.79	2.79	2.77	2.68	2.99	3.19	3.29	3.40
Total Demand	16.83	17.95	17.28	16.22	17.21	18.03	18.80	18.72	19.03	19.54	20.28	20.75	21.58	21.94	22.53

^aExcludes nonhydrocarbon gases removed.

^bThe balancing item represents the difference between the sum of the components of natural gas supply and the sum of components of natural gas demand.

^cNonutility gas consumption data and projections provided by the office of Coal, Nuclear, Electric and Alternate Fuels, Energy Information Administration.

Notes: Minor discrepancies with other EIA published historical data are due to rounding. Historical data are printed in bold, forecasts are in italic. The forecasts were generated by simulation of the Short-Term Integrated Forecasting System.

Sources: Historical data: Energy Information Administration, *Monthly Energy Review*, DOE/EIA-0035(96/02); *Natural Gas Monthly*, DOE/EIA-0130(96/02); *Electric Power Monthly*, DOE/EIA-0226(96/01); Form EIA-867, "Annual Nonutility Power Producer Report."

Table A7. Annual U.S. Coal Supply and Demand
(Million Short Tons)

	Year														
	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Supply															
Production	782.1	895.9	883.6	890.3	918.8	950.3	980.7	1029.1	996.0	997.5	945.4	1033.5	1032.3	1050.3	1062.0
Primary Stock Levels ^a															
Opening	36.8	33.9	34.1	33.1	32.1	28.3	30.4	29.0	33.4	33.0	34.0	25.3	33.2	33.0	33.0
Closing	33.9	34.1	33.1	32.1	28.3	30.4	29.0	33.4	33.0	34.0	25.3	33.2	33.0	33.0	33.0
Net Withdrawals	2.9	-0.2	1.0	1.0	3.8	-2.1	1.4	-4.4	0.4	-1.0	8.7	-7.9	0.2	S	S
Imports	1.3	1.3	2.0	2.2	1.7	2.1	2.9	2.7	3.4	3.8	7.3	7.6	7.2	7.3	7.5
Exports	77.8	81.5	92.7	85.5	79.6	95.0	100.8	105.8	109.0	102.5	74.5	71.4	88.5	90.6	91.9
Total Net Domestic Supply	708.4	815.6	793.9	808.0	844.7	855.3	884.2	921.6	890.9	897.8	886.9	961.8	951.1	967.1	977.7
Secondary Stock Levels ^b															
Opening	195.3	168.7	197.2	170.2	175.2	185.5	158.4	146.1	168.2	167.7	163.7	120.5	136.1	134.5	140.1
Closing	168.7	197.2	170.2	175.2	185.5	158.4	146.1	168.2	167.7	163.7	120.5	136.1	134.5	140.1	140.2
Net Withdrawals	26.6	-28.6	27.0	-5.0	-10.2	27.0	12.3	-22.1	0.5	4.0	43.2	-15.7	1.6	-5.6	-0.1
Total Supply	735.0	787.0	820.8	803.1	834.4	882.3	896.5	899.4	891.4	901.8	930.2	946.1	952.8	961.4	977.6
Demand															
Coke Plants	37.0	44.0	41.1	35.9	37.0	41.9	40.5	38.9	33.9	32.4	31.3	31.7	32.8	32.6	32.5
Electricity Production															
Electric Utilities	625.2	664.4	693.8	685.1	717.9	758.4	766.9	773.5	772.3	779.9	813.5	817.3	829.2	835.4	850.5
Nonutilities (Excl. Cogen.)	NA	NA	NA	NA	NA	NA	3.9	4.1	4.9	6.1	7.3	9.4	11.7	13.1	14.5
Retail and General Industry ^c	74.4	82.9	83.2	83.3	82.1	83.4	82.3	83.1	81.5	80.2	81.1	81.2	79.8	80.4	80.1
Total Demand ^d	736.7	791.3	818.0	804.2	836.9	883.6	893.6	899.6	892.5	898.5	933.2	939.6	953.5	961.4	977.6
Discrepancy ^e	-1.6	-4.3	2.8	-1.2	-2.5	-1.3	3.0	-0.2	-1.2	3.3	-3.1	6.5	-0.7	S	S

^aPrimary stocks are held at the mines, preparation plants, and distribution points.

^bSecondary stocks are held by users.

^cSynfuels plant demand in 1993 was 1.7 million tons per quarter, and is assumed to remain at that level in 1994, 1995, 1996, and 1997.

^dTotal excludes any shipments to independent power producers not calculated in Retail and General Industry for years prior to 1993.

^eHistorical period discrepancy reflects an unaccounted-for shipper and receiver reporting difference, plus any shipment to independent power producers not captured in Retail and General Industry.

(S) indicates amounts of less than 50,000 tons.

Notes: Rows and columns may not add due to independent rounding. Historical data are printed in bold, forecasts are in italic. The forecasts were generated by simulation of the Short-Term Integrated Forecasting System.

Sources: Historical data: Energy Information Administration, *Monthly Energy Review*, DOE/EIA-0035(96/02); and *Quarterly Coal Report*, DOE/EIA-0121(95/2Q), and Form EIA-867, "Annual Nonutility Power Producer Report."

Table A8. Annual U.S. Electricity Supply and Demand
(Billion Kilowatthours)

	Year														
	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Supply															
Net Utility Generation															
Coal	1259.4	1341.7	1402.1	1385.8	1463.8	1540.7	1553.7	1559.6	1551.2	1575.9	1639.2	1635.5	1653.3	1670.2	1704.9
Petroleum	144.5	119.8	100.2	136.6	118.5	148.9	158.3	117.0	111.5	88.9	99.5	91.0	60.9	66.6	72.1
Natural Gas	274.1	297.4	291.9	248.5	272.6	252.8	266.6	264.1	264.2	263.9	258.9	291.1	306.9	313.7	324.0
Nuclear	293.7	327.6	383.7	414.0	455.3	527.0	529.4	576.9	612.6	618.8	610.3	640.4	673.4	686.9	690.7
Hydroelectric	332.1	321.2	281.1	290.8	249.7	222.9	265.1	279.9	275.5	239.6	265.1	243.7	293.7	283.7	274.6
Geothermal and Other ^a	6.5	8.6	10.7	11.5	12.3	12.0	11.3	10.7	10.1	10.2	9.6	8.9	6.4	7.5	7.1
Subtotal	2310.3	2416.3	2469.8	2487.3	2572.1	2704.3	2784.3	2808.2	2825.0	2797.2	2882.5	2910.7	2994.7	3028.6	3073.4
Nonutility Generation ^b	NA	NA	NA	NA	NA	NA	191.3	221.8	253.7	296.0	325.2	354.9	372.5	394.9	411.4
Total Generation	NA	NA	NA	NA	NA	NA	2975.6	3030.0	3078.7	3093.2	3207.8	3265.6	3367.1	3423.5	3484.8
Net Imports	35.3	39.7	40.9	35.9	46.3	31.8	11.0	2.0	22.3	28.3	28.4	44.6	37.4	35.6	34.7
Total Supply	NA	NA	NA	NA	NA	NA	2986.6	3032.0	3101.0	3121.6	3236.2	3310.3	3404.6	3459.0	3519.5
Losses and Unaccounted for ^c	NA	NA	NA	NA	NA	NA	231.4	206.1	217.1	226.6	236.9	239.2	240.6	248.5	253.2
Demand															
Electric Utility Sales															
Residential	750.9	780.1	793.9	819.1	850.4	892.9	905.5	924.0	955.4	935.9	994.8	1005.8	1045.3	1066.8	1089.0
Commercial	543.8	582.6	606.0	630.5	660.4	699.1	725.9	751.0	765.7	761.3	794.6	827.3	854.2	868.5	880.1
Industrial	776.0	837.8	836.8	830.5	858.2	896.5	925.7	945.5	946.6	972.7	977.2	992.4	1010.5	1017.9	1036.9
Other	80.2	85.2	87.3	88.6	88.2	89.6	89.8	92.0	94.3	93.4	94.9	95.3	97.6	97.7	97.6
Subtotal	2151.0	2285.8	2324.0	2368.8	2457.3	2578.1	2646.8	2712.6	2762.0	2763.4	2861.5	2920.9	3007.5	3050.9	3103.6
Nonutility Own Use ^b	NA	NA	NA	NA	NA	NA	108.4	113.4	121.9	131.6	137.8	150.2	156.5	159.6	162.7
Total Demand	NA	NA	NA	NA	NA	NA	2755.2	2825.9	2883.9	2895.0	2999.3	3071.1	3164.0	3210.5	3266.3
Memo:															
Nonutility Sales to Electric Utilities ^d	13.0	18.0	26.0	39.9	50.0	68.0	83.0	108.5	131.9	164.4	187.4	204.7	216.0	235.3	248.7

^aOther includes generation from wind, wood, waste, and solar sources.

^bFor 1989 to 1991, estimates for nonutility generation are estimates made by the Energy Markets and Contingency Information Division, based on Form EIA-867 data. History and Projections for the same items are from the Office of Coal, Nuclear, Electric and Alternate Fuels, Energy Information Administration, based on Form EIA-867 data.

^cBalancing item, mainly transmission and distribution losses.

^dHistorical data for nonutility sales to electric utilities is from the Energy Information Administration, *Annual Energy Review*, DOE/EIA-0389, Table 8.1, for 1982 to 1988; from Form EIA-867 for 1989 to 1993.

Notes: Minor discrepancies with other EIA published historical data are due to rounding. Historical data are printed in bold, forecasts are in italic. The forecasts were generated by simulation of the Short-Term Integrated Forecasting System.

Sources: Historical data: Energy Information Administration, *Monthly Energy Review*, DOE/EIA-0035(96/02); *Electric Power Monthly*, DOE/EIA-0226(96/01); Form EIA-867 ("Annual Nonutility Power Producer Report"), Projections: Energy Information Administration, Short-Term Integrated Forecasting System database, and Office of Coal, Nuclear, Electric and Alternate Fuels Energy Information Administration.

Text References and Notes

Summer Outlook for Motor Gasoline

¹Miles driven for personal travel in the U.S. was 1.042 trillion miles in 1970, but rose 109 percent to an estimated 2.207 trillion miles in 1995. Over the same period, the driving age population (16 years or older) grew by about 40 percent, from 146 million to 205 million persons. Thus, approximately 60 percent of the travel growth in the United States since 1970 has been due to increases in per capita driving. Source: 1996 National Energy Modeling System.

²Between 1970 and 1995, the driving age population grew at an average annual rate of 1.36 percent. Based on Census Bureau projections, the driving age population is expected to grow by 0.9 percent over the 1995 to 1997 period. Driving per capita, which grew at an average rate of 1.7 percent per year between 1970 and 1995, can be expected to grow as well, even apart from short-run shifts in gasoline market conditions. Source: 1996 National Energy Modeling System internal documents.

³Based on the Second Quarter 1996 version of the Short-Term Integrated Forecasting System Model, the projected changes in real personal income (+2.3 percent) and the retail gasoline price (-0.1 percent) yield a contribution to highway travel growth of about 0.8 percent this summer.

⁴Between 1985 and 1993, highway miles traveled by automobiles increased 29 percent, while that for light trucks (pick-up trucks, vans and sport utilities) rose 33 percent. Light trucks are about 30 percent less fuel efficient than automobiles, on average. See U.S. Department of Transportation, Federal Highway Administration, *Highway Statistics*, FHWA-PL-88-002 and FHWA-PL-93-023, Table VM-1.

⁵It is not clear what impact the move to higher speed limits by many states (only 4 states still retain a maximum speed of 55 miles per hour) has on national average fuel efficiency, but it is far smaller than the calculated efficiency loss for a car travelling a particular distance at, say, 75 miles per hour instead of 55 miles per hour. This is because of the fact that roads on which statutory speed limits have been lifted are mostly rural arterial roads, which handle perhaps one-quarter of the total national highway travel. Furthermore, it is doubtful that the changes in statutory speed limits will be equal to effective average speed changes on affected roads, if many drivers who desire higher speeds have been travelling above the posted limit all along. See U.S. Department of Transportation, Federal Highway Administration, FHWA-PL-95-023, *Highway Statistics*, Table VM-1, and, *The New York Times*, "What's Next, Tail Fins?", February 15, 1996, p. D1. The EIA estimates that the introduction of RFG in 1995 increased volumetric gasoline requirements in RFG demand areas by at most 2 percent, implying an average decline in vehicle efficiency of about 0.5 percent in 1995. See EIA, *The Energy Information Administration's Assessment of Reformulated Gasoline* (Vol. I), SR/00G/94-02.

⁶At that time (1982), vehicle efficiency was in the midst of a sustained upward swing as consumers responded to high fuel prices created by the oil price shock of the late 1970's by demanding more fuel efficient cars. Since much of the observed increase in average efficiency during the 1980's is due to shifts in consumer purchases to lower size and weight classes, the end of vehicle efficiency growth has largely been due to a reversal of that consumer trend to purchases of larger, heavier, more powerful and less fuel efficient personal vehicles.

⁷Major refiners in the United States increased the value of net capital in place per unit of crude distillation capacity by 9 percent in 1994, an annual increase typical of U.S. refining investment trends since 1988. See Energy Information Administration, *Performance Profiles of Major Energy Producers, 1994*, DOE/EIA-0206(94), p. 37 and Figure 21.

⁸This was accomplished, however, by rapidly rising reliance on crude oil imports. Still, except for the disruption caused during the Gulf War of 1990-1991, world crude oil prices have remained low compared to the average of the last 15 years, particularly in real terms, even while a major Middle East producer (Iraq) has been prevented from contributing to world supplies.

⁹The gasoline assessment article is scheduled to be released in print on April 17, 1996, in Energy Information Administration, *Weekly Petroleum Status Report*, DOE/EIA-0208(96-14).

International Oil Demand

¹⁰Latin America is defined as including all of the countries of Central and South America, plus Mexico, but excluding Puerto Rico and the U.S. Virgin Islands.

¹¹Energy Information Administration, Energy Markets and Contingency Information Division.

International Oil Supply

¹²Non-OPEC developing countries are those which do not belong to either OPEC, FSU or OECD.

¹³Excess capacity data by country provided by Energy Information Administration, Energy Markets and Contingency Information Division.

World Oil Stocks and Net Trade

¹⁴Energy Information Administration, Office of Energy Markets and Contingency Information Division.

U.S. Oil Demand

¹⁵Energy Information Administration, *Historical Monthly Energy Review 1973-1992*, DOE/EIA-0035(73-92), Table 3.1a.

U.S. Oil Supply

¹⁶Estimate provided by the Energy Information Administration, Reserves and Natural Gas Division.

¹⁷Estimate provided by the Energy Information Administration, Reserves and Natural Gas Division.

¹⁸Drilling rig projections provided by the Energy Information Administration, Reserves and Natural Gas Division.

U.S. Energy Prices

¹⁹*Gas Daily*, February 5, 1996, p.1.

²⁰*Natural Gas Week*, February 5, 1996, p. 1.

²¹*Gas Daily*, February 5, 1996, p. 2.

²²*Natural Gas Week*, February 12, 1996, p. 8.

²³For some gas marketers, the response of gas suppliers to unusual price pressure, caused by well freeze-offs, high demand and low inventories, shook confidence in the domestic supply system. Some suppliers removed baseload gas due under existing contracts to take advantage of soaring spot prices, leaving marketers short. Many of the disruptions seen this winter are likely to be settled in court, and may lead to changes in the way gas supply contracts are negotiated in the future. See *Natural Gas Intelligence*, "Ethics Are Put Aside in Gas Market Rumble," February 12, 1996.

²⁴Energy Information Administration, *Monthly Energy Review*, DOE/EIA--0035(96/02), Table 9.10.

U.S. Natural Gas Demand

²⁵Energy Information Administration, *Historical Monthly Energy Review 1973-1992*, DOE/EIA-0035(73-92), Table 4.2.

U.S. Natural Gas Supply

²⁶*Natural Gas Week*, March 11, 1996, p. 3.

²⁷*Natural Gas Week*, March 18, 1996, p. 17.

U.S. Electricity Demand and Supply

²⁸Energy Information Administration, Office of Coal, Nuclear, Electric and Alternate Fuels.

²⁹Energy Information Administration, Office of Coal, Nuclear, Electric and Alternate Fuels.

Figure References

The following is a list of references for the figures appearing in this issue of the *Short-Term Energy Outlook*. Except where noted, all data for figures are taken from datasets containing monthly values of each variable depicted, aggregated to quarterly or annual values as required using appropriate weights. The datasets are created by particular runs of the Short-Term Integrated Forecasting System (STIFS) Model, depending on the scenario or set of scenarios depicted. Also, except when noted, all figures refer to the base or "BBB" case. Other cases referred to are: the high world oil price "BHB"; low world oil price "BLB"; severe weather "BBL"; mild weather "BBS"; strong economic growth "HBB"; weak economic growth "LBB"; weak economic growth with high world oil prices "WHB"; and strong economic growth with low world oil prices "PLB."

1. **History:** Compiled from monthly data used in publication of Energy Information Administration, *Petroleum Supply Annual, Volume 1*, DOE/EIA-0340/1, Table S4; *Petroleum Supply Monthly*, DOE/EIA-0109, Table S4, adjusted in years prior to 1993 for new (1993) reporting basis for fuel ethanol blended into motor gasoline (see *Short-Term Energy Outlook*, DOE/EIA-0202(93/3Q), Appendix B). **Projections:** Second quarter 1996 STIFS database, case "BBB."
2. **History:** Travel: Compiled from monthly data used in the Federal Highway Administration publication, *Traffic Volume Trends*; Demand: Compiled from monthly data used in publication of Energy Information Administration, *Petroleum Supply Annual, Volume 1*, DOE/EIA-0340/1, Table S4 for historical series, adjusted for 1993 reporting basis (see note 9 above); for recent values, *Petroleum Supply Monthly*, DOE/EIA-0109, Table S4; MPG is calculated as Travel (in miles)/Demand (in gallons); Real Fuel Cost per Mile is calculated as the real retail price (nominal cents per gallon divided by the consumer price index) divided by MPG (miles per gallon). **Projections:** Second quarter 1996 STIFS database, case "BBB."
3. Real retail gasoline price net of crude cost is calculated as the gross margin of retail gasoline over crude oil costs (both expressed in cents per gallon) divided by the consumer price index.
4. **History:** Compiled from monthly data used in publication of Energy Information Administration, *Petroleum Supply Annual, Volume 1*, DOE/EIA-0340/1, Table S4; *Petroleum Supply Monthly*, DOE/EIA-0109, Table S4. **Projections:** Second quarter 1996 STIFS database, case "BBB."
5. **History:** Compiled from monthly data used in publication of Energy Information Administration, *Petroleum Supply Annual, Volume 1*, DOE/EIA-0340/1, Table S4; *Petroleum Supply Monthly*, DOE/EIA-0109, Table S4. **Projections:** Second quarter 1996 STIFS database, case "BBB."
6. **History:** Import cost: Compiled from monthly data for the refiner acquisition cost of imported crude oil used in publication of Energy Information Administration, *Petroleum Marketing Annual*, DOE/EIA-0487, Table 1 for historical series; for recent values, *Petroleum Marketing Monthly*, DOE/EIA-0380, Table 1; West Texas Intermediate spot price, *Oil and Gas Journal* Database, February 6, 1995. **Projections:** Second quarter 1996 STIFS database, BBB, BLB, and BHB cases; and Energy Information Administration, Office of Energy Markets and End Use, Energy Markets and Contingency Information Division.
7. **History:** Manufacturing Production: Federal Reserve System, Statistical Release G 17; GDP: U.S. Department of Commerce, Bureau of Economic Analysis, *National Income and Product Accounts of the U.S.* **Projections:** DRI/McGraw-Hill Forecast CONTROL0296, modified by EIA's Office of Integrated Analysis and Forecasting with STIFS energy price forecasts.
8. **History:** Compiled from annual data used in publication of Energy Information Administration, *International Energy Annual*, DOE/EIA-0219, Table 8 for historical series; for recent values, *International Petroleum Statistics Report*, DOE/EIA-0520, Table 2.4; Energy Information Administration, Office of Energy

Figure References

- Markets and End Use, Energy Markets and Contingency Information Division. **Projections:** Energy Information Administration, Office of Energy Markets and End Use, Energy Markets and Contingency Information Division.
9. **History:** Compiled from annual data used in publication of Energy Information Administration, *International Energy Annual*, DOE/EIA-0219, Table 8 for historical series; for recent values, *International Petroleum Statistics Report*, DOE/EIA-0520, Table 2.4; and Energy Information Administration, Office of Energy Markets and End Use, Energy Markets and Contingency Information Division. **Projections:** Energy Information Administration, Office of Energy Markets and End Use, Energy Markets and Contingency Information Division.
 10. **History:** Compiled from annual data used in publication of Energy Information Administration, *International Petroleum Statistics Report*, DOE/EIA-0520, Table 4.1 for historical series and recent data; and Energy Information Administration, Office of Energy Markets and End Use, Energy Markets and Contingency Information Division. **Projections:** Energy Information Administration, Office of Energy Markets and End Use, Energy Markets and Contingency Information Division.
 11. **History:** Compiled from annual data used in publication of Energy Information Administration, *International Petroleum Statistics Report*, DOE/EIA-0520, Table 4.2 for historical series and recent data; Energy Information Administration, Office of Energy Markets and End Use, Energy Markets and Contingency Information Division. **Projections:** Energy Information Administration, Office of Energy Markets and End Use, Energy Markets and Contingency Information Division.
 12. **History:** Compiled from annual data used in publication of Energy Information Administration, *Monthly Energy Review*, DOE/EIA-0035, Table 10.3 for historical series and recent data. **Projections:** Energy Information Administration, Office of Energy Markets and End Use, Energy Markets and Contingency Information Division.
 13. **History:** Compiled from annual data used in publication of Energy Information Administration, *International Energy Annual*, DOE/EIA-0219, Table 1; Energy Information Administration, Office of Energy Markets and End Use, Energy Markets and Contingency Information Division. **Projections:** Energy Information Administration, Office of Energy Markets and End Use, Energy Markets and Contingency Information Division.
 14. **History:** Compiled from monthly data used in publication of Energy Information Administration, *Petroleum Supply Annual, Volume 1*, DOE/EIA-0340/1, Tables S4 through S10; *Petroleum Supply Monthly*, DOE/EIA-0109, Tables S4 through S10, adjusted in years prior to 1993 for new (1993) reporting basis for fuel ethanol blended into motor gasoline (See *Short-Term Energy Outlook*, DOE/EIA-0202(93/3Q), Appendix B). **Projections:** Second quarter 1996 STIFS database, case "BBB."
 15. **History:** Travel: Compiled from monthly data used in the Federal Highway Administration publication, *Traffic Volume Trends*; Demand: Compiled from monthly data used in publication of Energy Information Administration, *Petroleum Supply Annual, Volume 1*, DOE/EIA-0340/1, Table S4 for historical series, adjusted for 1993 reporting basis (see note 9 above); for recent values, *Petroleum Supply Monthly*, DOE/EIA-0109, Table S4; MPG is calculated as Travel (in miles)/Demand (in gallons). **Projections:** Second quarter 1996 STIFS database, case "BBB."
 16. **History:** Compiled from monthly data used in publication of Energy Information Administration, *Petroleum Supply Annual, Volume 1*, DOE/EIA-0340/1, Table S1 for historical series; for recent values,

Figure References

Petroleum Supply Monthly, DOE/EIA-0109, Table S1. **Projections:** Second quarter 1996 STIFS database, cases "BBB," "WHB," and "PLB;" and EIA's Reserves and Natural Gas Division.

17. **History:** Compiled from monthly data used in publication of Energy Information Administration, *Petroleum Supply Annual, Volume 1*, DOE/EIA-0340/1, Table S1 for historical series; for recent values, *Petroleum Supply Monthly*, DOE/EIA-0109, Table S1. **Projections:** Second quarter 1996 STIFS database, case "BBB." The imports share variable is calculated as the ratio of total net petroleum imports divided by total petroleum demand.
18. **History:** Compiled from monthly data used in publication of Energy Information Administration, *Petroleum Marketing Annual*, DOE/EIA-0487, Table 1, and *Natural Gas Monthly*, DOE/EIA-0130, Table 4 for historical series; for recent values, *Petroleum Marketing Monthly*, DOE/EIA-0380, Table 1. **Projections:** Second quarter 1996 STIFS database.
19. **History:** Compiled from monthly data used in publication of Energy Information Administration, *Natural Gas Monthly*, DOE/EIA-0130, Table 4, and *Natural Gas Week*, December 26, 1995, p. 6. **Projections:** Second quarter 1996 STIFS database, case "BBB."
20. **History:** Compiled from monthly data used in publication of Energy Information Administration, *Petroleum Marketing Annual*, DOE/EIA-0487, Tables 2, 4, and 15 for historical series; for recent values, *Petroleum Marketing Monthly*, DOE/EIA-0380, Tables 2, 4 and 15. **Projections:** Second quarter 1996 STIFS database.
21. **History:** Compiled from monthly data used in publication of Energy Information Administration, *Electric Power Monthly*, DOE/EIA-0226, Table 60. **Projections:** Second quarter 1996 STIFS database, case "BBB."
22. **History:** Compiled from monthly data used in publication of Energy Information Administration, *Petroleum Supply Annual, Volume 1*, DOE/EIA-0340/1, Table S1 for historical series adjusted for 1993 reporting basis (see note 9 above); for recent values, *Petroleum Supply Monthly*, DOE/EIA-0109, Table S1. **Projections:** Second quarter 1996 STIFS database, cases "BBB," "BBS," and "BBL."
23. **History:** Compiled from monthly data used in publication of Energy Information Administration, *Petroleum Supply Annual, Volume 1*, DOE/EIA-0340/1, Table S1 for historical series adjusted for 1993 reporting basis (see note 9 above); for recent values, *Petroleum Supply Monthly*, DOE/EIA-0109, Table S1. **Projections:** Second quarter 1996 STIFS database, cases "BBB," "HBB," and "LBB."
24. **History:** Compiled from monthly data used in publication of Energy Information Administration, *Natural Gas Annual, Volume 2*, DOE/EIA-0131, Table 3 for historical series; for recent values, Energy Information Administration, *Natural Gas Monthly*, DOE/EIA-0130. **Projections:** Second quarter 1996 database, case "BBB."
25. **History:** Nonutility Generators, 1989-1993: Energy Information Administration, Form EIA-867 (1993); other volumes compiled from monthly data used in publication of Energy Information Administration, *Natural Gas Annual, Volume 2*, DOE/EIA-0131, Table 3 for historical series; for recent values, Energy Information Administration, *Natural Gas Monthly*, DOE/EIA-0130. **Projections:** Nonutility Generators: Office of Coal, Nuclear, Electric and Alternate Fuels, Energy Information Administration; other volumes: Second quarter 1996 STIFS database, case "BBB."

Figure References

26. **History:** Production and net imports of natural gas compiled from monthly data used in publication of Energy Information Administration, *Natural Gas Annual, Volume 2*, DOE/EIA-0131/2, Table 2 for historical series; for recent production data, *Natural Gas Monthly*, DOE/EIA-0130. **Projections:** Second quarter 1996 STIFS database, case "BBB."
27. **History:** Compiled from monthly data used in publication of Energy Information Administration, *Natural Gas Annual, Volume 2*, DOE/EIA-0131, Table 3 for historical series; for recent values, Energy Information Administration, *Natural Gas Monthly*, DOE/EIA-0130. **Projections:** Second quarter 1996 STIFS database, case "BBB."
28. **History:** Compiled from quarterly data used in publication of Energy Information Administration, *Quarterly Coal Report*, DOE/EIA-0121, Table 45. **Projections:** Second quarter 1996 STIFS database, case "BBB." Note: Nonutility, coke plant, retail, and general industry demand for coal is included in "Other."
29. **History:** Compiled from quarterly data used in publication of Energy Information Administration, *Quarterly Coal Report*, DOE/EIA-0121, Table 1. **Projections:** Second quarter 1996 STIFS database, case "BBB"; and Energy Information Administration, Office of Coal, Nuclear, Electric and Alternate Fuels.
30. **History:** Compiled from monthly data used in publication of Energy Information Administration, *Electric Power Monthly*, DOE/EIA-0226, Table 51. **Projections:** Second quarter 1996 STIFS database, case "BBB."
31. **History:** Compiled from monthly data used in publication of Energy Information Administration, *Electric Power Monthly*, DOE/EIA-0226, Table 3, and Form EIA-759. **Projections:** Second quarter 1996 STIFS database, case "BBB"; and Energy Information Administration, Office of Coal, Nuclear, Electric and Alternate Fuels for hydroelectric and nuclear power forecasts.
32. **History:** Compiled from data used in publication of Energy Information Administration, *Annual Energy Review*, DOE/EIA-0384, Table 10.1; Second quarter 1996 STIFS database, and Energy Information Administration, Office of Coal, Nuclear, Electric and Alternate Fuels. **Projections:** Second quarter 1996 STIFS database and Energy Information Administration, Office of Coal, Nuclear, Electric and Alternate Fuels.
33. **History:** Compiled from data used in publication of Energy Information Administration, *Annual Energy Review*, DOE/EIA-0384, Table 10.1; and Second quarter 1996 STIFS database and Energy Information Administration, Office of Coal, Nuclear, Electric and Alternate Fuels. **Projections:** Second quarter 1996 STIFS database and Energy Information Administration, Office of Coal, Nuclear, Electric and Alternate Fuels.

Computation of Petroleum Demand Sensitivities

Table 8 summarizes the response of forecasts of U.S. total petroleum demand to changes in assumptions for economic growth, world crude oil prices, and weather. The values in this table are computed using the Short-Term Integrated Forecasting Model (STIFS). The STIFS model is documented in EIA's *Short-Term Integrated Forecasting System: 1993 Model Documentation Report* (DOE/EIA-M041, May 1993). The purpose of the model is to generate forecasts of U.S. energy supply, demand, and prices. Key inputs include assumptions for the imported price of crude oil, the rate of U.S. economic growth, and weather (cooling and heating degree-days). Forecasts are generated for production, imports, exports, demand, and prices for refined petroleum products, natural gas, coal, and electricity.

A key relationship between petroleum demand and economic activity is shown in Table 8. Gross domestic product (GDP) is varied from low to high for each of the 2 projection years, and the resulting change in petroleum demand is calculated. For each of the 2 years, the percentage difference in GDP is computed as the difference between the low and high case levels shown in Table 8, divided by the midpoint of this range. Thus, the percentage difference in GDP for 1996 is as follows: $(6923 - 6811) / ((6923 + 6811) / 2)$, or 1.6 percent. For each period, the petroleum demand difference (in million barrels per day) is divided by the percentage difference in GDP. For 1996, the average petroleum demand difference is 167,000 barrels per day; thus, a 1-percent change in GDP corresponds to a change in demand of $(167,000 / 1.6)$, or 104,000 barrels per

day. For 1997, a 4.1-percent change in GDP corresponds to a change in demand of 502,000 barrels per day; thus, a 1-percent change in GDP corresponds to a demand change of 122,000 barrels per day. The average of the 1996 and 1997 results (weighting the 1996 results by 275 days and the 1997 results by 365 days) is 114,000 barrels per day per 1 percent difference in GDP. Table 8 also shows the differences in petroleum demand due to changes in energy prices caused by varying the world crude oil price. The change in petroleum demand (in million barrels per day) is divided by the change in the crude oil price (in dollars per barrel), and the result is averaged over the two projection years to get an estimate of the change in petroleum demand per dollar of change in the crude oil price.

The influence of weather on petroleum demand is also calculated, using the mid-case values for economic activity and imported crude oil prices. The percentage changes in heating or cooling degree-days are computed and divided by the changes in petroleum demand, and the result is averaged over the two projection periods to get an estimate of the change in petroleum demand per 1-percent change in heating and cooling degree-days. The changes in demand due to changes in heating degree-days apply only to the heating season, roughly the first and fourth quarters of the year, while the changes in demand due to changes in cooling degree-days apply only to the cooling season, roughly the second and third quarters of the year.